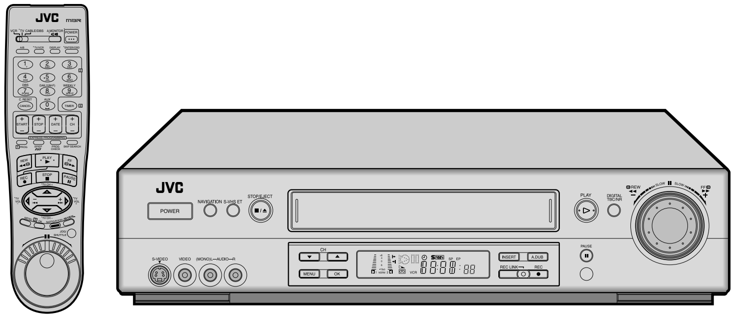
JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S9900U



S-VHS
Hi-Fi
VCR plus+ ®
C3 CABLE BOX CONTROL
Super VHS ET
TIME SCAN
Ghost Reduction Tuner

Regarding service information other than these sections, refer to the HR-S9800U service manual (No. 82805). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS

GENERAL

Power requirement	: AC 120 V∿ , 60 Hz
Power consumption	
Power on	: 27 W
Power off	: 2.6 W
Temperature	
Operating	: 5°C to 40°C (41°F to 104°F)
Storage	: –20°C to 60°C (–4°F to140°F)
Operating position	: Horizontal only
Dimensions (W x H x D)	: 437 mm x 97 mm x 347 mm (17-1/4" x 3-7/8" x 13-11/16")
Weight	: 4.8 kg (10.6 lbs)
Format	: S-VHS/VHS NTSC standard
Maximum recording time	
SP	: 210 min. with ST-210 video cassette
EP	: 630 min. with ST-210 video cassette

VIDEO/AUDIO

Signal system	: NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording/ Playback system	: DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	
VHS	: 230 lines
S-VHS	: 400 lines
Frequency range	
Normal audio	: 70 Hz to 10,000 Hz
Hi-Fi audio	: 20 Hz to 20,000 Hz
Input/Output	: RCA connectors (IN x 2, OUT x 1) S-video connectors (IN x 2, OUT x 1)

TUNER

Tuning system	: Frequency-synthesized tuner
Channel coverage	
VHF	: Channels 2–13
UHF	: Channels 14–69
CATV	: 113 Channels
RF output	: Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 Ω, unbalanced

TIMER

Clock reference	: Quartz
Program capacity	: 1-year programmable timer/ 8 programs
Memory backup time	: Approx. 3 min.

ACCESSORIES

Provided accessories	: Infrared remote control unit, “AA” battery x 2, Audio/video cable, RF cable (F-type), S-video cable (4-pin), S-VHS ET labels, Controller

Specifications shown are for SP mode unless specified otherwise.
E. & O.E. Design and specifications subject to change without notice.

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MAIN BOARD ASSEMBLY <03> 5-3

The following table indicate main different points between models HR-S9800U and HR-S9900U.

MODEL ITEM	HR-S9800U	HR-S9900U
FRONT PANEL color	GOLD	SILVER

The following tables indicate different parts number between models HR-S9800U and HR-S9900U.

PACKING AND ACCESSORY ASSEMBLY <M1>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
301	PACKING CASE	LP30596-009B	LP30948-001A
⚠ 310	INST BOOK(EN)	LPT0350-001A	LPT0505-001A
⚠	INST BOOK(FR)	LPT0350-003A	LPT0505-002A
317	Q.S.SHEET	LPT0350-002A	—

FINAL ASSEMBLY <M2>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
⚠ 501	FRONT PANEL ASSY	LP10088-017B	LP10088-023A
501A	CASSETTE DOOR	LP20716-006A	LP20716-010A
501C	DISPLAY WINDOW	LP20250-007A	LP20250-015A
⚠ 502	TOP COVER	PQ11922-36-7	PQ11922-56
531	KNOB(SHUTTLE)	LP30695-001A	LP30695-006A
532	KNOB(JOG)	LP30694-001A	LP30694-003A

MECHANISM ASSEMBLY <M4>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
7	TENSION STUD BASE ASSY	LP40678-001A	*LP40637-002A
14	SPACER,X2 UV CATCHER2	—	*PQ40919-10
42	PINCH ROLLER ARM ASSY	LP40105-001B	*LP40105-003A
43	PINCH ROLLER SHEET2	LP40478-001A	—
43	PINCH ROLLER SHEET3	—	*LP40753-001A
47	SLIT WASHER	LP30016-002A	* —
51	TENSION SPRING	LP40134-001C	*LP40134-002A
53	HEAD BASE	LP30228-001A	*LP30228-001C
80	MAIN BRAKE ASSY(TAKE UP)	LP40111-012B	*LP40111-014C
91	SPACER,CAPSTAN MOTOR	—	*LP30002-097A
94	COUPLING GEAR	LP30697-002A	*LP30697-003A
102	CHANGE LEVER ASSY	LP40484-001H	*LP40484-003B
105	REEL DISK ASSY(SUPPLY)	LP40420-001A	*LP20237-003B
106	REEL DISK ASSY(TAKE UP)	LP40421-001A	*LP20238-003B
109	SCREW/SPECIAL SCREW	QYTPST2620Z	*LP40746-001A
119	DRIVE GEAR	LP30243-001D	*LP30243-002A

Notes : Mark — is not used.
Mark * reference model was also changed.

MAIN BOARD ASSEMBLY <03>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	MAIN BOARD ASSY	LPA10106-51B1	*LPA10106-51C1

3D DIGITAL/4M BOARD ASSEMBLY <05>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	3D DIGITAL/4M BOARD ASSY	LPA10104-01B	*LPA10143-02A

TERMINAL BOARD ASSEMBLY <06>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	TERMINAL BOARD ASSY	LPA10101-01B	*LPA10101-01C
B201	MG RESISTOR	—	*NRSA02J-0R0X
B207	MG RESISTOR	—	*NRSA02J-0R0X
B209	MG RESISTOR	—	*NRSA02J-0R0X
B214	MG RESISTOR	—	*NRSA02J-0R0X
B7151	MG RESISTOR	—	*NRSA02J-0R0X
B7152	MG RESISTOR	—	*NRSA02J-0R0X
L202	IM BUS WIRE	—	*QUY153-050Y
L205	IM BUS WIRE	—	*QUY153-050Y

NAVIGATION BOARD ASSEMBLY <19>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	NAVIGATION BOARD ASSY	LPA10108-02C	*LPA10145-02A

DISPLAY BOARD ASSEMBLY <28>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	FRONT BOARD ASSY	LPA10056-08A1	LPA10056-11A1

S JACK BOARD ASSEMBLY <36>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
PW1	S JACK BOARD ASSY	LPA10056-08A4	LPA10056-11A4
R7192	IM BUS WIRE	—	*QUY153-050Y
C7196	IM BUS WIRE	—	*QUY153-050Y
J7191	PIN JACK,VIDEO IN	PEMC1126	PEMC1009
J7192	PIN JACK(SW),A(L)IN	PEMC0922	PEMC1010
J7193	PIN JACK(SW),A(R)IN	PEMC0922	PEMC1010
J7194	S JACK,SVIDEO	QND0085-001	QND0084-001
L7191	IM BUS WIRE	—	*QUY153-050Y
L7192	IM BUS WIRE	—	*QUY153-050Y
L7193	IM BUS WIRE	—	*QUY153-050Y
L7194	IM BUS WIRE	—	*QUY153-050Y

JOG BOARD ASSEMBLY <37>

⚠ REF. NO	MODEL ITEM	HR-S9800U	HR-S9900U
B7092	IM BUS WIRE	—	*QUY153-050Y
B7093	IM BUS WIRE	—	*QUY153-050Y

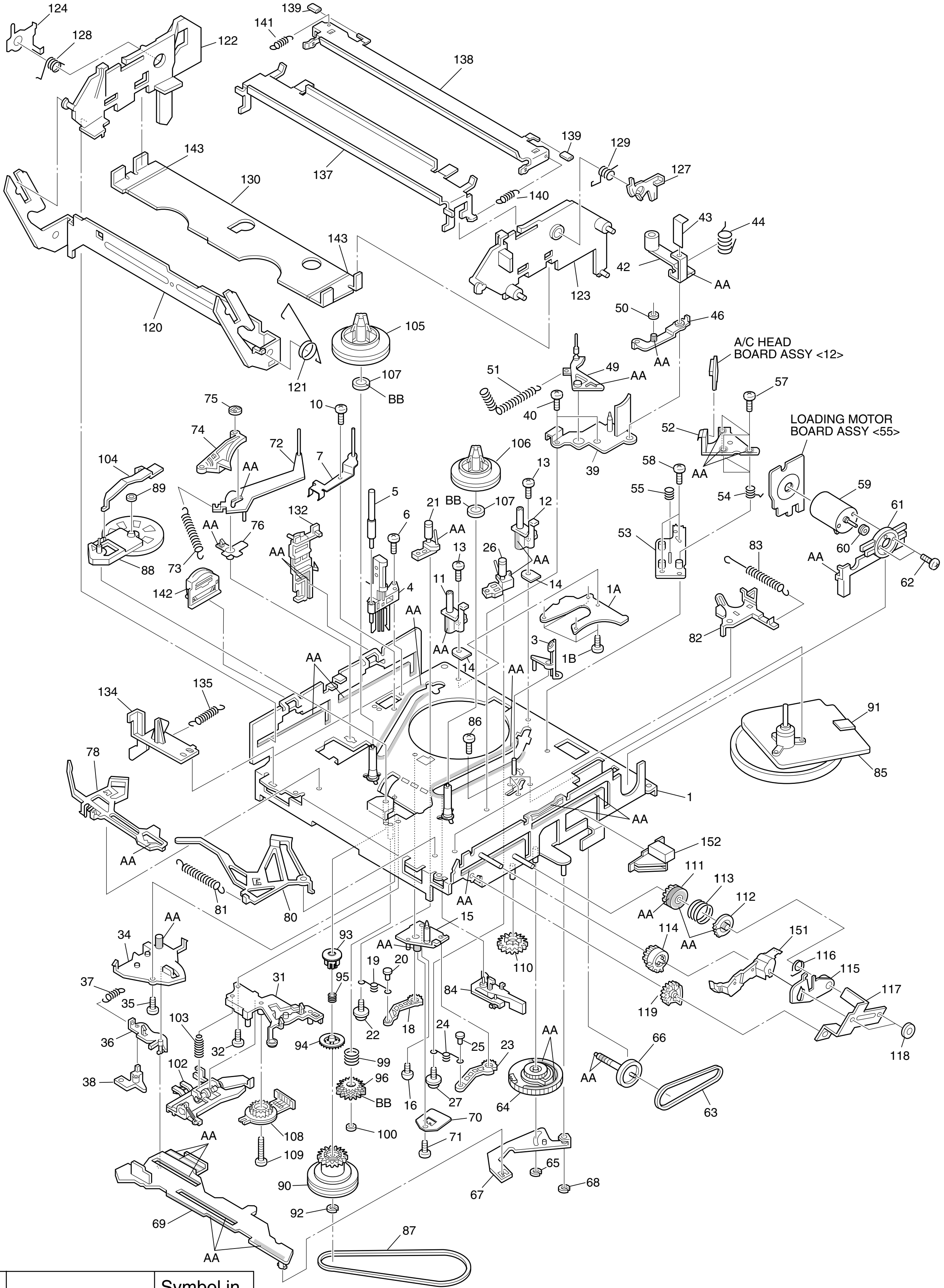
Notes : Mark — is not used.
Mark : * reference model was also changed.

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 MECHANISM ASSEMBLY <M4>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137
140
43
44
143
42
AA
123
50
46
120
105
A/C HEAD
BOARD ASSY <12>
51
49
AA
AA
107
BB
121
75
10
57
40
LOADING MOTOR
BOARD ASSY <55>
74
72
52
104
7
106
13
39
58
AA
AA
89
5
21
BB
107
12
55
54
59
61
132
6
AA
73
AA
76
53
83
AA
60
AA
13
26
AA
88
142
11
4
14
1A
62
AA
3
82
AA
1B
AA
14
AA
134
135
91
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AA
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32
94
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118
102
96
38
AA
16
27
64
BB
63
70
100
108
AA
71
109
65
90
67
68
92
69
87
AA

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

* * *

MECHANISM ASSEMBLY <M4>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	LP20884-002F	MAIN DECK ASSY
1A	LP40275-002B	PLATE(SUPPLY)
1B	QYTDST2606Z	SCREW,X4
3	LP30492-002B	GIDE POOL GUARD
4	NAH0001-001	FULL ERASE HEAD
5	LP40098-001B	GUIDE POLE(SUPPLY)
6	QYTDST2608Z	SCREW
7	LP40637-002A	TENSION STUD BASE ASSY
10	QYTDST2606Z	SCREW
11	LP30409-002C	UV CATCHER 2
12	LP30409-002C	UV CATCHER 2
13	QYTPST2606Z	SCREW,X2
14	PQ40919-10	SPACER,X2,UV CATCHER 2
15	LP30223-003C	LOADING ARM GEAR SHAFT
16	QYTDST2606Z	SCREW
18	LP30224-001B	LOADING ARM GEAR(SUPPLY)
19	LP40099-001A	TORSION ARM
20	LP40100-001A	PIN
21	LP40101-007A	POLE BASE ASSY(SUPPLY)
22	QYSPSTG2606Z	SCREW
23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
24	LP40099-001E	TORSION ARM
25	LP40100-001A	PIN
26	LP40104-008A	POLE BASE ASSY(TAKE UP)
27	QYSPSTG2606Z	SCREW
31	LP20233-004B	ROTARY ENCODER GUIDE
32	QYTPST2606Z	SCREW
34	LP30226-004E	CONTROL PLATE GUIDE
35	QYTPST2605Z	SCREW
36	LP30249-003B	TAKE UP LEVER
37	LP30003-006A	TENSION SPRING
38	LP40119-002A	TAKE UP HEAD
39	LP20234-004B	LID GUIDE
40	QYTDST2606Z	SCREW,X2
42	LP40105-003A	PINCH ROLLER ARM ASSY
43	LP40753-001A	PINCH ROLLER SHEET3
44	LP40148-002A	TORSION SPRING
46	LP40149-001C	PRESS LEVER ASSY
49	LP40106-002E	GUIDE ARM ASSY
50	LP30017-008A	SPACER
51	LP40134-002A	TENSION SPRING
52	QAH0010-004	AC HEAD
53	LP30228-001C	HEAD BASE
54	LP30004-013A	COMPRESSION SPRING,X3
55	LP40236-001A	COMPRESSION SPRING
57	LP40213-002B	SPECIAL SCREW,X3
58	QYTDST2608Z	SCREW,X2
59	QAR0023-001	LOADING MOTOR
60	PQ43546-1-2	MOTOR PULLEY
61	LP30230-001B	MOTOR GUIDE
62	QYTPSP3003Z	SCREW,X2
63	LP30005-003A	BELT,LOADING MOTOR
64	LP20791-002D	CONTROL CAM
65	PQM30017-24	SLIT WASHER
66	LP40120-001A	WORM GEAR
67	LP40107-002A	LINK LEVER ASSY
68	PQM30017-24	SLIT WASHER
69	LP10284-002E	CONTROL PLATE
70	LP40379-001B	CONTROL BRACKET(1)
71	QYTDSF2608M	SCREW
72	LP40108-002A	TENSION ARM ASSY
73	LP30003-010A	TENSION SPRING
74	LP40109-003D	TENSION BRAKE ASSY
75	PQ46302-1-3	ADJUST PIN
76	LP30232-002A	TENSION ARM BEARING
78	LP40532-009B	MAIN BRAKE ASSY (SUPPLY)
80	LP40111-014C	MAIN BRAKE ASSY (TAKE UP)
81	LP30003-029A	TENSION SPRING
82	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
83	LP40357-001B	TENSION SPRING
84	LP40461-001A	CAPSTAN BRAKE ASSY
85	QAR0132-001	CAPSTAN MOTOR
86	QYTDSF2606M	SCREW,X3
87	LP30005-008B	BELT,CAPSTAN MOTOR
88	LP40114-011B	IDLER ARM ASSY
89	LP30016-001A	SLIT WASHER
90	LP40593-003B	CLUTCH UNIT 3
91	LP30002-097A	SPACER,CAPSTAN MOTOR
92	PQM30017-47	SLIT WASHER
93	LP30696-002A	CLUTCH GEAR 4
94	LP30697-003A	COUPLING GEAR
95	LP40554-002A	COMPRESSION SPRING
96	LP40442-001A	DIRECT GEAR
99	LP40483-002A	COMPRESSION SPRING
100	LP30016-001A	SLIT WASHER
102	LP40484-003B	CHANGE LEVER ASSY
103	LP40512-002B	COMPRESSION SPRING
104	LP30236-002C	IDLER LEVER
105	LP20237-003B	REEL DISK ASSY(SUPPLY)
106	LP20238-003B	REEL DISK ASSY(TAKE UP)
107	LP30017-015A	SPACER,X2
108	QSW0554-003	ROTARY ENCODER
109	LP40746-001A	SPECIAL SCREW
110	LP30237-002B	CASSETTE GEAR
111	LP30239-002G	LIMIT GEAR(1)
112	LP30240-002G	LIMIT GEAR(2)
113	LP40136-001E	TORSION SPRING
114	LP30242-002A	RELAY GEAR
115	LP30339-002E	OPENER GUIDE
116	LP40545-001A	TORSION SPRING
117	LP40214-001B	C.H.BRACKET
118	PQM30017-47	SLIT WASHER,X2
119	LP30243-002A	DRIVE GEAR
120	LP20240-001G	DRIVE ARM
121	LP40137-001A	TORSION SPRING
122	LP10081-002L	SIDE HOLDER(L)
123	LP10082-002M	SIDE HOLDER(R)
124	LP30255-006A	LOCK LEVER(L)
127	LP30256-001H	LOCK LEVER(R)
128	LP40168-001A	TORSION SPRING(L)
129	LP40218-001B	TORSION SPRING(R)
130	LP30257-001G	CASSETTE HOLDER
132	LP30244-002G	GUIDE RAIL
134	LP30245-002F	REC SAFETY LEVER
135	LP30003-004A	TENSION SPRING
137	LP20578-001C	TOP GUIDE
138	LP30500-001C	HOLD PLATE
139	LP40450-003A	PAD,X2
140	LP30003-025B	TENSION SPRING
141	LP30003-024A	TENSION SPRING
142	LP40481-003A	ROLLER CAM ASSY
143	LP30019-014A	PAD,X2
151	LP20324-003B	DOOR OPENER
152	LP30493-001B	START SENSOR CAP

5.2 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <03>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10106-51C1	MAIN BOARD ASSY
		IC1	JCP8022-NSD-2	IC
		IC2501	LC85405JE	IC
		IC3001	HD6432194AA06F	IC (MCU)
		IC3002	S-80727AN-DQ-X	IC
			or S-80827ANUP-W	IC
			or R3111H271A	IC
		IC3003	AT24C08-10PC	IC
			or BR24C08	IC
			or M24C08-BN6	IC
			or S-24C08ADP	IC
			or 24LC08B/P	IC
		IC3004	BA6956AN	IC
		IC3501	BA6956AN	IC
		IC3601	BU2090FS	IC
		IC3651	BU2090FS	IC
		IC5101	STR-G6532	IC
		IC5301	LA5644	IC
		Q5	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q7	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q8	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q9	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q12	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q17	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q21	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q24	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q38	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q401	2SA1576A/QR/-X	TRANSISTOR
		Q402	2SA1576A/QR/-X	TRANSISTOR
		Q403	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q404	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q405	2SA1576A/QR/-X	TRANSISTOR
		Q2001	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2002	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2003	DTA144WU	DIGI TRANSISTOR
			or PDTA144WU	DIGI TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	DIGI TRANSISTOR
		Q2004	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2052	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q2053	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2054	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2061	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2062	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2102	DTC114EU	DIGI TRANSISTOR
			or PDTC114EU	DIGI TRANSISTOR
			or RN1302	DIGI TRANSISTOR
			or UN5211	DIGI TRANSISTOR
		Q2103	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2104	DTA144WU	DIGI TRANSISTOR
			or PDTA144WU	DIGI TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	DIGI TRANSISTOR
		Q2105	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q2108	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2251	DTA144WU	DIGI TRANSISTOR
			or PDTA144WU	DIGI TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	DIGI TRANSISTOR
		Q2501	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2502	DTC144WU	DIGI TRANSISTOR
			or PDTC144WU	DIGI TRANSISTOR
			or RN1309	DIGI TRANSISTOR
			or UN521E	DIGI TRANSISTOR
		Q3001	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3002	PTZ-NV16	PHOTO TRANSISTOR
			or PTZ-NV16A	PHOTO TRANSISTOR
		Q3003	PTZ-NV16	PHOTO TRANSISTOR
			or PTZ-NV16A	PHOTO TRANSISTOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	Q3005	2SD1819A/QRS/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q3009	UN521E	DIGI TRANSISTOR
		or PDTC144WU	DIGI TRANSISTOR
		or RN1309	DIGI TRANSISTOR
		or DTC144WU	DIGI TRANSISTOR
	Q3501	2SD1819A/QRS/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q4001	UN5211	DIGI TRANSISTOR
		or RN1302	DIGI TRANSISTOR
		or PDTC114EU	DIGI TRANSISTOR
		or DTC114EU	DIGI TRANSISTOR
	Q4003	UN5211	DIGI TRANSISTOR
		or RN1302	DIGI TRANSISTOR
		or DTC114EU	DIGI TRANSISTOR
		or PDTC114EU	DIGI TRANSISTOR
	Q5301	2SB1256	TRANSISTOR
	Q5302	DTC114TU	DIGI TRANSISTOR
		or PDTC114TU	DIGI TRANSISTOR
		or UN5215	DIGI TRANSISTOR
		or RN1311	TRANSISTOR
	Q5320	2SB1256	TRANSISTOR
	Q5321	DTC114TU	DIGI TRANSISTOR
		or PDTC114TU	DIGI TRANSISTOR
		or RN1311	TRANSISTOR
		or UN5215	DIGI TRANSISTOR
	Q5322	DTA114EU	DIGI TRANSISTOR
		or PDTA114EU	DIGI TRANSISTOR
		or RN2302	TRANSISTOR
		or UN5111	DIGI TRANSISTOR
	Q6501	DTC143TU	DIGI TRANSISTOR
	Q6502	DTC143TU	DIGI TRANSISTOR
	Q6551	2SC1740S/QRS/-T	TRANSISTOR
		or 2SC3199/YG/-T	TRANSISTOR
	Q7201	2SC1317/RS/-T	TRANSISTOR
	D2001	1SS355	DIODE
	D2121	MTZJ8.2C	ZENER DIODE
	D2201	11ES2	DIODE
		or 1A3G	DIODE
	D2501	1SS133	DIODE
	D3001	LNB2301L01VI	LE DIODE
	D3002	1SS133	DIODE
	D3003	RD39ES/B3/-T2	ZENER DIODE
		or MTZJ39C	ZENER DIODE
	D3004	11E2-T5	DIODE
	D3005	11E2-T5	DIODE
	D3007	1SS355	DIODE
	D4001	1SS355	DIODE
	D4002	1SS355	DIODE
	D5001	S1WB/A/60-4102	BRIDGE DIODE
		or S1WB/A/60-X	BRIDGE DIODE
		or S1WB(A)60F4072X	BRIDGE DIODE
	D5101	AU01	FR DIODE
		or ERA18-04-T2	FR DIODE
		or 10ELS4	FR DIODE
		or 1SR153-400-T2	FR DIODE
	D5102	AU01	FR DIODE
		or ERA18-04-T2	FR DIODE
		or 1SR153-400-T2	FR DIODE

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
		or 10ELS4	FR DIODE	
	D5103	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or PG104RS	FR DIODE	
	D5201	AK04	DIODE	
		or 1S4	SB DIODE	
		or 11EQS04	SB DIODE	
	D5202	FML-12S	FR DIODE	
		or FCF06A20	FR DIODE	
		or ER602FCT	FR DIODE	
		or YG901C2	FR DIODE	
		or SF5LC20U	FR DIODE	
	D5206	FMB-24	BARRIER DIODE	
		or SB640FCT	SB DIODE	
		or SF5SC4	SB DIODE	
		or YG801C04	SB DIODE	
		or FSQ05A04B	SB DIODE	
	D5209	ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
	D5210	AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
	D5211	AU01Z	FR DIODE	
		or PG104RS	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 10ELS2	FR DIODE	
	D5214	ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
	D5301	MTZJ15A	ZENER DIODE	
		or RD15ES/B1/-T2	ZENER DIODE	
	D5302	MTZJ6.8A	ZENER DIODE	
		or RD6.8ES/B1/-T2	ZENER DIODE	
	D5303	MTZJ27C	ZENER DIODE	
		or RD27ES/B3/-T2	ZENER DIODE	
	D5304	1SS133	DIODE	
		or 1SS270A	DIODE	
	D5305	11ES2	DIODE	
		or 1A3G	DIODE	
		or ERA15-02-T2	DIODE	
	D5314	QUY160-100Y	IM BUS WIRE	
	D5315	11ES2	DIODE	
		or 1A3G	DIODE	
		or ERA15-02-T2	DIODE	
	D5316	QUY160-100Y	IM BUS WIRE	
	D6002	HZ30-2L-T2	ZENER DIODE	
		or HZ30-2LTD	Z DIODE (M)	
	D6551	MTZJ10B	ZENER DIODE	
	R1	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
	R2	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
	R3	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R7	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R9	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R23	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
		R27	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R28	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R29	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R30	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R31	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R32	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R34	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R39	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R44	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R45	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R46	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R51	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R68	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R77	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R88	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R90	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R92	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R93	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R113	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R114	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R401	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R402	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R403	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R404	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R405	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R407	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R408	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R409	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2001	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2003	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R2006	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2007	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2009	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2010	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2011	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2012	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R2016	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2017	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2063	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2102	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R2103	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2104	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2105	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R2106	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2107	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2109	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2111	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2121	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2202	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2203	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2204	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2205	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2206	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2208	QUY160-100Y	IM BUS WIRE	
		R2209	QUY160-100Y	IM BUS WIRE	
		R2210	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2211	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2213	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2215	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2217	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2218	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2219	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2220	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2223	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2224	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2225	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2228	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2251	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2501	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2502	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2503	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
		R2504	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2505	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2506	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2507	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2508	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R2509	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2510	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2511	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R2512	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2513	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2514	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R2519	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2520	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2522	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3011	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3012	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3013	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3016	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3017	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3018	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R3019	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3022	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3025	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3026	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3027	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3032	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3040	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3041	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3042	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3044	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3046	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3047	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3048	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3049	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3050	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3054	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3055	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3056	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3072	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3078	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3083	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3085	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3086	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3087	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3088	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3089	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3090	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3094	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3095	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3096	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3097	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3103	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
		R3206	QRE141J-183Y	RESISTOR	18kΩ,1/4W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3218	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3235	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3236	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3238	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3241	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3247	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3501	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R3502	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R3503	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R3504	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3505	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3506	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3671	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3672	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3673	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4011	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	⚠	R5001	QRZ9046-475Z	RESISTOR	4.7MΩ,1/2W
		R5101	QRG02GJ-104	OMF RESISTOR	100kΩ,2W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R5102	QRE141J-820Y	RESISTOR	82Ω,1/4W
		R5103	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
		R5105	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
		R5106	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R5301	QRE141J-1R0Y	RESISTOR	1Ω,1/4W
		R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	⚠	R5304	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
		R5305	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5306	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5309	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R5327	NRVA02D-303X	CMF RESISTOR	30kΩ,1/10W
		R5330	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5332	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5334	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R5335	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5336	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R6020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6032	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R6050	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6061	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6551	QRE141J-271Y	RESISTOR	270Ω,1/4W
		R6552	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6553	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R6554	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R7202	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R7203	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7204	QRE121J-100Y	RESISTOR	10Ω,1/2W
		B3	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B18	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B38	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B42	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B49	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B52	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B2101	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B2501	QUY160-175Y	IM BUS WIRE	
		B3001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3002	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3012	QUY160-200Y	IM BUS WIRE	
		B3030	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5001	QUY160-100Y	IM BUS WIRE	
		B5002	QUY160-100Y	IM BUS WIRE	
		B5301	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5303	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5304	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5306	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7252	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7255	QUY160-125Y	IM BUS WIRE	
		C1	NCF21CZ-105X	CAPACITOR	1μF,16V
		C2	NCF21CZ-105X	CAPACITOR	1μF,16V
		C3	NCF21CZ-105X	CAPACITOR	1μF,16V
		C4	NCF21CZ-105X	CAPACITOR	1μF,16V
		C5	QEKC0JM-476	E CAPACITOR	47μF,6.3V
		C6	NCB11EK-104X	CAPACITOR	0.1μF,25V
		C7	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C8	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C9	QETN1HM-225	E CAPACITOR	2.2μF,50V
		C10	NDC21HG-151X	CAPACITOR	150pF,50V
		C11	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C12	NDC21HJ-120X	CAPACITOR	12pF,50V
		C14	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C15	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C16	NCB11EK-104X	CAPACITOR	0.1μF,25V
		C17	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C19	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C20	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C21	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C22	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C23	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C24	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C25	NDC21HJ-4R0X	CAPACITOR	4pF,50V
		C26	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C27	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C28	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C29	NCB21HK-472X	CAPACITOR	0.0047μF,50V
		C30	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C31	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C32	QCFB1HZ-104	CAPACITOR	0.1μF,50V
		C33	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C35	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C36	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C37	NCB21AK-105X	CAPACITOR	1μF,10V
		C38	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C39	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C40	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C54	NDC21HJ-221X	CAPACITOR	220pF,50V
		C59	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C60	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C61	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C63	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C64	NDC21HJ-120X	CAPACITOR	12pF,50V
		C71	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C72	NDC21HJ-470X	CAPACITOR	47pF,50V
		C73	NDC21HJ-120X	CAPACITOR	12pF,50V
		C74	NDC21HJ-120X	CAPACITOR	12pF,50V
		C80	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C84	NDC21HJ-220X	CAPACITOR	22pF,50V
		C94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C106	NDC21HJ-560X	CAPACITOR	56pF,50V
		C108	NDC21HJ-150X	CAPACITOR	15pF,50V
		C109	NCB21CK-224X	CAPACITOR	0.22μF,16V
		C110	NCB21HK-331X	CAPACITOR	330pF,50V
		C401	NCB21EK-103X	CAPACITOR	0.01μF,25V
		C402	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C403	NDC21HJ-151X	CAPACITOR	150pF,50V
		C404	NDC21HJ-470X	CAPACITOR	47pF,50V
		C406	NDC21HJ-681X	CAPACITOR	680pF,50V
		C407	NDC21HJ-180X	CAPACITOR	18pF,50V
		C2001	QETN1HM-475	E CAPACITOR	4.7μF,50V
		C2002	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C2003	QEKJ0JM-476	E CAPACITOR	47μF,6.3V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C2004	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2005	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2006	NCB21HK-123X	CAPACITOR	0.012µF,50V
		C2007	QEKJ1CM-226	E CAPACITOR	22µF,16V
		C2008	QERF1EM-475	E CAPACITOR	4.7µF,25V
		C2009	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2010	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C2011	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2012	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2051	NCB21HK-331X	CAPACITOR	330pF,50V
		C2061	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
		C2062	NCB21HK-332X	CAPACITOR	0.0033µF,50V
		C2063	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2064	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2101	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2102	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2104	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2202	NCB21EK-333X	CAPACITOR	0.033µF,25V
		C2203	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2204	QDGB1HK-102Y	CAPACITOR	0.001µF,50V
		C2205	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2206	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2207	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2208	QETN1HM-475	E CAPACITOR	4.7µF,50V
		C2209	QERF1HM-104	E CAPACITOR	0.1µF,50V
		C2210	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
		C2211	QERF1HM-105	E CAPACITOR	1µF,50V
		C2212	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2215	QERF1EM-475	E CAPACITOR	4.7µF,25V
		C2216	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2217	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2218	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2219	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2220	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2221	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2222	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2223	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2224	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2225	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2226	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2227	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2229	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2230	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2231	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2251	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2252	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2253	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2254	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2256	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C2501	QERF0JM-107	E CAPACITOR	100µF,6.3V
		C2502	NCB21HK-562X	CAPACITOR	0.0056µF,50V
		C2503	QERF1HM-105	E CAPACITOR	1µF,50V
		C2505	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C2506	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2507	QERF1CM-226	E CAPACITOR	22µF,16V
		C2508	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2509	QERF1CM-106	E CAPACITOR	10µF,16V
		C2510	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2511	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C2512	NDC21HJ-331X	CAPACITOR	330pF,50V
		C2513	NCB21HK-103X	CAPACITOR	0.01µF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C2518	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2519	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2520	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3001	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3002	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3003	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C3004	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3008	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3011	QETL0JM-478	E CAPACITOR	4700µF,6.3V
		C3012	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C3015	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3016	NCF21CZ-105X	CAPACITOR	1µF,16V
		C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3027	NBE20JM-106X	T CAPACITOR	10µF,6.3V
		C3030	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C3031	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C3032	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3033	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	QCFB1HZ-104	CAPACITOR	0.1µF,50V
		C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
		C3042	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C3501	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3502	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C3503	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3602	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3652	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4002	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4003	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4004	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C4006	NBE40JM-476X	T CAPACITOR	47µF,6.3V
		C4007	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4008	NCB21AK-105X	CAPACITOR	1µF,10V
		C4009	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4012	NCB21EK-224X	CAPACITOR	0.22µF,25V
		C4013	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4017	NCB21HK-222X	CAPACITOR	0.0022µF,50V
	⚠	C5001	QFZ9073-683	F CAPACITOR	0.068µF,250V
	⚠	C5004	QCZ9094-472	CAPACITOR	0.0047µF,250V
		C5006	QETM2DM-157	E CAPACITOR	150µF,200V
		C5101	QCZ0212-472	CAPACITOR	0.0047µF,1kV
		C5102	QEMU1VM-276	E CAPACITOR	27µF,35V
		C5103	QCZ0136-101Z	CAPACITOR	100pF,1kV
		C5104	QFLC1HJ-471Z	F CAPACITOR	470pF,50V
		C5107	QCZ0136-101Z	CAPACITOR	100pF,1kV
		C5201	QEMU0JM-227	E CAPACITOR	220µF,6.3V
		C5202	QEMT1CM-827	E CAPACITOR	820µF,16V
		C5203	QEMT1AM-158	E CAPACITOR	1500µF,10V
		C5204	QETN2AM-475	E CAPACITOR	4.7µF,100V
		C5205	QETN1HM-106	E CAPACITOR	10µF,50V
		C5206	QEMU1EM-187	E CAPACITOR	180µF,25V
		C5207	QETN1CM-227	E CAPACITOR	220µF,16V
		C5208	QETN1AM-227	E CAPACITOR	220µF,10V
		C5212	QEMU1VM-127	E CAPACITOR	120µF,35V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C5213	QEMU0JM-227	E CAPACITOR	220µF,6.3V
		C5301	QETM0JM-108	E CAPACITOR	1000µF,6.3V
		C5302	QETN1HM-106	E CAPACITOR	10µF,50V
		C5303	QETN1CM-107	E CAPACITOR	100µF,16V
		C5304	QFVF1HJ-274Z	F CAPACITOR	0.27µF,50V
		C5305	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6054	NDC21HJ-220X	CAPACITOR	22pF,50V
		C6055	NDC21HJ-220X	CAPACITOR	22pF,50V
		C7202	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		L1	QQL29BJ-100Z	COIL	10µH
		L2	QQL231J-680Y	COIL	68µH
		L3	QQL29BJ-100Z	COIL	10µH
		L4	QQL29BJ-100Z	COIL	10µH
		L5	QQL29BJ-100Z	COIL	10µH
		L11	QQL01BJ-120Z	COIL	12µH
		L13	QQL231J-101Y	COIL	100µH
		L15	QQL29BJ-100Z	COIL	10µH
		L18	QUY153-050Y	IM BUS WIRE	
		L19	QQL231J-100Y	COIL	10µH
		L20	QUY153-050Y	IM BUS WIRE	
		L24	QQL231J-180Y	COIL	18µH
		L27	QQL231J-151Y	COIL	150µH
		L28	QQL231J-150Y	COIL	15µH
		L401	QQL071J-150Y	COIL	15µH
		L402	QUY153-050Y	IM BUS WIRE	
		L2001	QUY153-050Y	IM BUS WIRE	
		L2251	QQL29BJ-100Z	COIL	10µH
		L2501	QQL29BJ-2R2Z	COIL	2.2µH
		L3001	QUY153-050Y	IM BUS WIRE	
		L3501	QUY153-050Y	IM BUS WIRE	
		L5201	PELN1184	COIL	33µH
		L5202	PU60944-330K	COIL	33µH
		L6001	QUY153-050Y	IM BUS WIRE	
		L6003	QUY153-050Y	IM BUS WIRE	
		L6005	QUY153-050Y	IM BUS WIRE	
		L6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L6032	QUY153-050Y	IM BUS WIRE	
		L6050	QQL29BK-1R0Z	COIL	1µH
		L7201	QQL01BJ-101Z	COIL	100µH
		LPF2501	PELN1137	LOW PASS FILTER	
		CF2501	QAX0399-001Z	RESONATOR	
		LC2501	QQL29BJ-100Z	COIL	10µH
		X2	QAX0575-001	CRYSTAL RESONATOR	
		X3001	QAX0444-001	CRYSTAL RESONATOR	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3002	QSW0695-001	PUSH SWITCH,S CASS SW	
		K2251	NQR0007-001X	FERRITE BEAD	
		K2252	NQR0007-001X	FERRITE BEAD	
		K2253	NQR0007-001X	FERRITE BEAD	
		K5101	QQR0678-001Z	FERRITE BEAD	
		K5102	QQR0678-001Z	FERRITE BEAD	
		PC3001	GP3S123	IC(PHOTO SENSOR)	
		PC3002	GP3S123	IC(PHOTO SENSOR)	
	⚠	PC5101	PC817	IC(PHOTO COUPLER)	
		T2052	PELN0861	OSC TRANSFORMER	
	⚠	T5001	QQS0057-001	SW TRANSFORMER	
		TU6001	QAU0163-001	TUNER	
		ET1	PQ21623-1-5	EARTH PLATE(RF)	
		ET2	LP40658-001B	EARTH PLATE(1)	
		HS1	LP40621-001A	HEAT SINK,IC5101	
		SD1	LP30720-001A	SHIELD CASE(PRE/REC)	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		WR11	QUB371-14ZAZA	SIN TWIST WIRE	
		FC5001	QNG0006-001Z	FUSE CLIP,F5001	
		FC5002	QNG0006-001Z	FUSE CLIP,F5001	
		OT1	QYTDSF3010Z	SCREW,X2 TERMINAL	
		OT2	PU59915-107	#500SPACER0.01,WR11	
		OT3	QYTDST3008Z	SCREW,IC5101	
	⚠	LF5002	QQR0532-001	LINE FILTER	
	⚠	SG5001	QAF0046-242Z	SURGE ABSORBER	
	⚠	VA5001	QAF0039-431Z	VARISTOR	
	⚠	VA5002	QAF0039-431Z	VARISTOR	
		CN1	QGF1028C1-13	FPC CONNECTOR,(4-16)U.DRUM	
		CN901	QGF1207C1-04	FPC CONNECTOR,(1-4)FRONT S IN	
		CN902	QGF1207C1-05	FPC CONNECTOR,(1-5)FRONT IN	
		CN903	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN904	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN905	QGB2024K1-05S	CONNECTOR,(1-5)TERMINAL	
		CN907	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
		CN1901	QGF1207C1-11	FPC CONNECTOR,(1-11)GR	
		CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD	
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
		CN2051	QGB2024K1-04S	CONNECTOR,(1-4)AUDIO ERASE	
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
		CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR	
		CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
		CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTARY ENCODER	
		CN3011	QGF1207C1-14	FPC CONNECTOR,(1-14)FRONT	
		CN3012	QGF1207C1-06	FPC CONNECTOR,(1-6)JOG	
		CN3501	QGB2011L2-06	CONNECTOR,(1-6)DD MDA	
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
	⚠	CP4001	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP5301	ICP-N38	CIRCUIT PROTECTOR	
	⚠	CP5302	ICP-N25	CIRCUIT PROTECTOR	
	⚠	F5001	QMF51N2-1R25J1	FUSE	T1.25A,AC250V

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3D DIGITAL/4M BOARD ASSEMBLY <05>

REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10143-02A	3D DIGITAL/4M BOARD ASSY
IC1401	JCP8026	IC
IC1402	MN47V77S-XE	IC
Q1401	2SC1317/RS/-T	TRANSISTOR
Q1402	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1403	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1406	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1407	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1408	2SC4081/S/-X	TRANSISTOR
Q1410	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1412	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1413	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	Q1417	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1418	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1419	DTC124TU	DIGI TRANSISTOR	
	D1401	RD4.3ES/B2/-T2	ZENER DIODE	
		or MTZJ4.3B	ZENER DIODE	
	D1402	1SS133	DIODE	
		or 1N4148M	DIODE	
	R1401	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
	R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1404	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1407	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R1410	NRSA02J-241X	MG RESISTOR	240Ω,1/10W
	R1411	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1414	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1415	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R1416	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
	R1417	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1421	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R1426	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1427	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R1428	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R1429	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1430	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1431	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1432	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R1433	NRSA02J-510X	MG RESISTOR	51Ω,1/10W
	R1434	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
	R1435	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1436	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R1437	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R1438	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R1439	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R1440	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
	R1446	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1447	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1448	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1449	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1450	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1453	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1455	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1458	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
	R1459	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1460	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R1462	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	VR1401	QVZ3521-103Z	V RESISTOR,D/A LEVEL	
	B1417	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B1419	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
	C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1403	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
	C1404	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1405	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1406	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1407	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1408	NDC21HJ-330X	CAPACITOR	33pF,50V

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	C1410	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C1411	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1412	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1413	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1415	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1416	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C1417	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1421	NDC21HJ-330X	CAPACITOR	33pF,50V
	C1422	NDC21HJ-680X	CAPACITOR	68pF,50V
	C1423	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1424	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1425	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C1426	NDC21HJ-390X	CAPACITOR	39pF,50V
	C1428	NDC21HJ-220X	CAPACITOR	22pF,50V
	C1429	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
	C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1432	NCF21CZ-105X	CAPACITOR	1μF,16V
	C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1435	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1439	NCF21CZ-105X	CAPACITOR	1μF,16V
	C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1442	NCF21CZ-105X	CAPACITOR	1μF,16V
	C1444	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1446	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
	C1447	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1448	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
	C1449	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1451	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C1452	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1453	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1454	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1455	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1456	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
	C1457	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1458	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1463	QEKJ0JM-336	E CAPACITOR	33μF,6.3V
	C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1466	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1467	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1471	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1472	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	C1473	NCF21EZ-104X	CAPACITOR	0.1μF,25V
	L1401	QQL29BJ-100Z	COIL	10μH
	L1402	QQL071J-6R8Y	COIL	6.8μH
	L1403	QQL071J-6R8Y	COIL	6.8μH
	L1404	QQL071J-6R8Y	COIL	6.8μH
	L1405	QQL29BJ-100Z	COIL	10μH
	L1406	QQL071J-330Y	COIL	33μH
	L1407	QQL29BJ-100Z	COIL	10μH
	L1408	QQL29BJ-4R7Z	COIL	4.7μH
	LC1401	QQR0521-013Z	NOISE FILTER	

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	LC1402	QQR0521-010Z	NOISE FILTER	
	SD1	LP30706-001C	SHIELD FRAME(S-VHS)	
	SD2	LP30684-001A	SHIELD CASE(S-VHS)	
	CN1401	QGG2502K1-17	HEADER PIN	

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NAVIGATION BOARD ASSEMBLY <19>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	LPA10145-02A	NAVIGATION BOARD ASSY	
	IC3301	MN101C12GCC	IC (MCU)	
		or MN101CP12GAFCC	IC (MCU)	
	IC3401	74HC4053D	IC	
	IC3402	74HC4053D	IC	
	IC3403	AT45D011-SC-X	IC	
	D3401	RB751V-40-X	SB DIODE	
	D3407	1SS355	DIODE	
	R3302	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3313	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R3321	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3322	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3323	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3326	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3328	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3329	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3330	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3331	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R3332	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R3342	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3343	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3345	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3346	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3347	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3348	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3349	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3350	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3351	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3352	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3371	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3372	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3373	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3386	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R3401	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3403	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3404	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3412	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3414	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3415	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3422	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3462	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R3465	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R3466	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R3468	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	B3301	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3401	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3405	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3406	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3407	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3408	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3409	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B3410	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C3312	NDC21HJ-200X	CAPACITOR	20pF,50V
	C3313	NDC21HJ-200X	CAPACITOR	20pF,50V
	C3314	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3321	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3322	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3323	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3333	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3345	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3346	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3347	NDC21HJ-220X	CAPACITOR	22pF,50V
	C3401	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
	C3402	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3403	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3404	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C3405	NCB21EK-104X	CAPACITOR	0.1μF,25V
	X3301	QAX0584-001	CRYSTAL RESONATOR	
	BK1	LP40425-001A	BRACKET(BOARD)	
	CN3401	QGG2502K1-13	HEADER PIN	
	CN3402	QGF1207F1-08	FPC CONNECTOR,(1-8)	

SECTION 4
CHARTS AND DIAGRAM

COMPONENT PART LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	B	C	13I
C2	B	C	13I
C3	B	C	13J
C4	B	C	14J
C5	A	D	13J
C6	B	C	12K
C7	B	C	13J
C8	B	C	13J
C9	A	D	14M
C10	B	C	14L
C11	B	C	15L
C12	B	C	15L
C13	B	C	15L
C14	B	C	15L
C15	B	C	14M
C16	B	C	13L
C17	A	D	12M
C18	A	D	13M
C19	A	D	13M
C20	A	D	13M
C21	B	C	12M
C22	A	D	12M
C23	B	C	12M
C24	B	C	12N
C25	B	C	11M
C26	B	C	10N
C27	B	C	11N
C28	A	D	11M
C29	B	C	11N
C30	B	C	11N
C31	A	D	11N
C32	A	D	11M
C33	A	D	9N
C34	B	C	9N
C35	B	C	10M
C36	A	D	10N
C37	B	C	10M
C38	A	D	9L
C39	B	C	10M
C40	A	D	9M
C41	B	C	8M
C42	B	C	7M
C44	B	C	13H
C45	A	D	10L
C51	A	D	16N
C52	A	D	13M
C53	B	C	8N
C54	B	C	8N
C55	B	C	10N
C56	B	C	9N
C59	B	C	14L
C60	A	D	13H
C61	B	C	13L
C62	B	C	14M
C63	B	C	15M
C64	B	C	11O
C65	A	D	13K
C69	B	C	13H
C70	B	C	13H
C71	B	C	14G
C72	B	C	15G
C73	B	C	15H
C74	B	C	14H
C75	B	C	15G
C76	B	C	15H
C77	B	C	16H
C78	B	C	17H
C79	B	C	12N
C80	B	C	12N
C81	B	C	13N
C82	B	C	16M
C84	B	C	16L
C87	B	C	13I
C88	B	C	13J
C89	B	C	13J
C90	B	C	13J
C91	B	C	12L
C92	B	C	12N
C93	B	C	15G
C94	B	C	12O
C95	B	C	12O
C96	B	C	10O
C98	A	D	13M
C103	B	C	15G
C104	B	C	12O
C105	B	C	12O
C106	B	C	15M
C107	B	C	18H
C108	B	C	11O
C109	B	C	15M
C110	B	C	14M
C112	B	C	11N
C113	B	C	11N
C114	B	C	11O
C115	B	C	14J
C116	B	C	14I
C117	B	C	15J
C118	B	C	15J
C119	B	C	15J
C120	B	C	14J
C121	B	C	14J
C122	B	C	14J
C123	B	C	14I
C124	B	C	16I
C129	B	C	15G
C130	B	C	16G
C401	B	C	16I
C402	B	C	16J
C403	B	C	16K
C404	B	C	16J
C405	B	C	16I
C406	B	C	16J
C407	B	C	16J
C409	A	D	16J
C2001	A	D	9K
C2002	A	D	10K
C2003	A	D	12J
C2004	B	C	12J
C2005	A	D	14J
C2006	B	C	13J
C2007	A	D	13J
C2008	A	D	13K
C2009	B	C	13K
C2010	B	C	13K
C2011	A	D	14L
C2012	A	D	13L
C2013	B	C	13K
C2021	B	C	14K
C2051	B	C	18K
C2061	A	D	21F
C2062	B	C	21F
C2063	B	C	21F
C2064	A	D	21G
C2101	A	D	14K
C2102	A	D	9M
C2103	B	C	9M
C2104	B	C	9L
C2121	A	D	8L
C2201	B	C	9L
C2202	B	C	10L
C2203	A	D	8M
C2204	A	D	8M
C2205	A	D	8M
C2206	A	D	8M
C2207	A	D	8L
C2208	A	D	9K
C2209	A	D	9K
C2210	A	D	10K
C2211	A	D	8K
C2212	A	D	9K
C2213	A	D	9J
C2214	A	D	10K
C2215	A	D	10K
C2216	A	D	10J
C2217	A	D	10J
C2218	A	D	11J
C2219	A	D	10J
C2220	A	D	10I
C2221	B	C	11I
C2222	A	D	11I
C2223	A	D	11I
C2224	B	C	11J
C2225	A	D	11I
C2226	A	D	11J
C2227	B	C	12I
C2228	B	C	9I
C2229	B	C	10J
C2230	B	C	10J
C2231	B	C	10M
C2232	B	C	9I
C2233	B	C	10I
C2251	A	D	12J
C2252	B	C	12J
C2253	B	C	12I
C2254	B	C	12I
C2255	B	C	11I
C2256	A	D	13I
C2501	A	D	19D
C2502	B	C	20C
C2503	A	D	20C
C2504	B	C	19C
C2505	A	D	17B
C2506	B	C	19D
C2507	A	D	20D
C2508	B	C	19D
C2509	A	D	19D
C2510	A	D	19B
C2511	B	C	20B
C2512	B	C	20C
C2513	B	C	18B
C2518	B	C	17C
C2519	B	C	17C
C2520	B	C	17B
C2521	A	D	17B
C3001	B	C	8J
C3002	B	C	7J
C3003	A	D	7J
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	20E
C3010	A	D	1B
C3011	A	D	1B
C3012	A	D	4B
C3014	A	D	6A
C3015	B	C	8F
C3016	B	C	9D
C3017	B	C	8C
C3018	B	C	8C
C3019	B	C	8C
C3020	B	C	9C
C3021	B	C	9C
C3022	B	C	15C
C3024	B	C	11C
C3025	A	D	11C
C3026	B	C	11C
C3027	B	C	12C
C3028	B	C	10B
C3029	B	C	11B
C3030	B	C	13D
C3031	B	C	11D
C3032	B	C	11D
C3033	B	C	10F
C3034	B	C	12D
C3035	B	C	12D
C3036	B	C	12C
C3037	B	C	11C
C3038	B	C	13D
C3039	B	C	13D
C3040	A	D	8D
C3041	B	C	11C
C3042	A	D	5B
C3049	B	C	3A
C3054	B	C	12C
C3501	B	C	3C
C3502	A	D	4C
C3503	B	C	14G
C3504	B	C	4C
C3505	B	C	4C
C3602	B	C	15F
C3603	B	C	15E
C3604	B	C	15E
C3652	B	C	15C
C3653	B	C	15C
C3654	B	C	15C
C4001	A	D	6B
C4002	B	C	9E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	9F
C4008	B	C	9F
C4009	B	C	9F
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11F
C4013	B	C	10F
C4014	B	C	10F
C4015	B	C	10F
C4016	B	C	10F
C4017	B	C	9F
C5001	A	D	2O
C5002	A	D	4N
C5003	A	D	4P
C5004	A	D	1J
C5006	A	D	3M
C5101	A	D	2M
C5102	A	D	3K
C5103	A	D	1K
C5104	A	D	3L
C5105	A	D	3M
C5106	A	D	3L
C5107	A	D	1K
C5201	A	D	1G
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	2H
C5206	A	D	3G
C5207	A	D	2F
C5208	A	D	1E
C5209	A	D	3G
C5211	A	D	5M
C5212	A	D	4J
C5213	A	D	1H
C5301	A	D	2D
C5302	A	D	2E
C5303	A	D	3E
C5304	A	D	3D
C5305	B	C	1G
C5306	A	D	2C
C5307	A	D	2C
C5308	A	D	2F
C5309	A	D	2E
C5310	A	D	3D
C6005	A	D	21M
C6006	B	C	22M
C6007	A	D	20M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	22O
C6014	B	C	22P
C6016	B	C	21O
C6020	B	C	22N
C6021	B	C	22M
C6022	B	C	22N
C6023	B	C	22M
C6024	B	C	22K
C6027	B	C	21L
C6028	B	C	22L
C6032	B	C	21K
C6033	B	C	22J
C6037	B	C	22L
C6052	B	C	22O
C6053	B	C	22P
C6054	B	C	22P
C6055	B	C	22O
C6101	A	D	21B
C6519	B	C	19N
C6520	B	C	19N
C6551	A	D	22P
C6552	B	C	22O
C6553	A	D	19L
C6554	B	C	22P
C6555	B	C	19M
C7202	A	D	19O
C7251	B	C	21A
CONNECTOR			
CN1	A	D	15K
CN301	A	D	20J
CN302	A	D	18H
CN501	A	D	7O
CN502	A	D	18O
CN901	A	D	22A
CN902	A	D	21A
CN903	A	D	14P
CN904	A	D	19P
CN905	A	D	16P
CN907	A	D	8P
CN1901	A	D	22C
CN2001	A	D	14L
CN2002	A	D	20G
CN2051	A	D	18L
CN3001	A	D	6L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3011	A	D	3A
CN3012	A	D	2C
CN3501	A	D	14H
CN5001	A	D	1P
CN6102	A	D	21C
CN6103	A	D	21H
CN6701	A	D	18M
CN7103	A	D	22E
DIODE			
D1	B	C	19K
D3	B	C	10O
D4	A	D	14M
D5	B	C	13M
D6	A	D	7N
D7	A	D	13C
D8	A	D	12N
D9	B	C	15F
D10	B	C	7H
D2001	B	C	18I
D2121	A	D	8L
D2201	A	D	9M
D2501	A	D	20D
D3001	A	D	13D
D3002	A	D	5D
D3003	A	D	3B
D3004	A	D	4A
D3005	A	D	4A
D3006	A	D	5J
D3007	B	C	7D
D3008	B	C	7D
D3009	A	D	12B
D3011	A	D	2B
D3012	A	D	1C
D4001	B	C	11E
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	1L
D5102	A	D	2L
D5103	A	D	2K
D5104	A	D	4N
D5201	A	D	1I
D5202	A	D	4H
D5203	A	D	4I
D5204	A	D	3I
D5205	A	D	3I
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	3G
D5209	A	D	3H
D5210	A	D	4I
D5211	A	D	1I
D5212	A	D	2I
D5213	A	D	5L
D5214	A	D	4I
D5301	A	D	3H
D5302	A	D	2D
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4G
D5306	A	D	2D
D5307	A	D	3F
D5308	A	D	2F
D5309	A	D	3C
D5310	A	D	2E
D5314	A	D	3G
D5315	A	D	5G
D5316	A	D	3F
D5317	A	D	7H
D6002	A	D	22L
D6551	A	D	22O
IC			
IC1	B	C	11L
IC2	B	C	16H
IC3	B	C	14J
IC2501	B	C	18C
IC3001	B	C	10D
IC3002	B	C	12C
IC3003	A	D	15C
IC3004	A	D	7J
IC3501	A	D	4C
IC3601	B	C	15F
IC3651	B	C	16C
IC5101	A	D	2L
IC5301	A	D	1D
IC6080	B	C	22N
COIL			
L1	A	D	13J
L2	A	D	15L
L3	A	D	14N
L4	A	D	11N
L5	A	D	9M
L11	A	D	11N
L12	A	D	11M
L13	A	D	11O
L14	A	D	12N
L15	A	D	14H
L17	A	D	15G
L18	A	D	15H
L19	A	D	15H
L20	A	D	16L
L22	A	D	12M
L24	A	D	15M
L25	A	D	18H
L26	A	D	18H
L27	A	D	12O
L28	A	D	14M
L29	A	D	14H
L401	A	D	16J
L402	A	D	19G
L2001	A	D	12J
L2251	A	D	13I
L2252	A	D	11I
L2501	A	D	17B
L3001	A	D	6J
L3011	A	D	7J
L3012	A	D	7J
L3501	A	D	3C
L5201	A	D	2G
L5202	A	D	1F
L6001	A	D	20N
L6002	A	D	21P
L6003	A	D	21O
L6004	A	D	20P
L6005	A	D	20N
L6031	B	C	21L
L6032	A	D	22J
L6050	A	D	22N
L7201	A	D	19O
TRANSISTOR			
Q1	B	C	14I
Q2	B	C	14I
Q3	B	C	14J
Q4	B	C	14J
Q5	B	C	13L
Q7	B	C	15G
Q8	B	C	15H
Q9	B	C	15H
Q10	B	C	8N
Q11	B	C	9N
Q12	B	C	8N
Q13	B	C	8N
Q14	B	C	15G
Q16	B	C	16L
Q17	B	C	16L
Q18	B	C	16M
Q21	B	C	12O
Q24	B	C	7N
Q25	B	C	9N
Q26	B	C	9N
Q28	B	C	16M
Q31	B	C	19I
Q32	B	C	13M
Q34	B	C	12N
Q35	B	C	13M
Q37	B	C	13N
Q38	B	C	15M
Q39	B	C	11O
Q40	B	C	11N
Q41	B	C	11O
Q42	B	C	7H
Q43	B	C	14E
Q401	B	C	16J
Q402	B	C	16J
Q403	B	C	16I
Q404	B	C	18F
Q405	B	C	19G
Q2001	B	C	14L
Q2002	B	C	14K
Q2003	B	C	14L
Q2004	B	C	14K
Q2011	B	C	14K
Q2052	B	C	18H
Q2053	B	C	18H
Q2054	B	C	19H
Q2061	B	C	21G
Q2062	B	C	19H
Q2102	B	C	14K
Q2103	B	C	9M
Q2104	B	C	8M
Q2105	B	C	8M
Q2106	B	C	8M
Q2107	B	C	8M
Q2108	B	C	9M
Q2251	B	C	10I
Q2252	B	C	10I
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7J
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	3B
Q3005	B	C	4B
Q3007	B	C	7D
Q3009	B	C	7D
Q3501	B	C	4C
Q4001	B	C	8E
Q4002	B	C	10F
Q4003	B	C	9F
Q5101	A	D	3L
Q5102	B	C	3L
Q5103	B	C	4M
Q5301	A	D	3F
Q5302	B	C	3F
Q5303	A	D	2D
Q5304	A	D	2E
Q5305	B	C	3E
Q5306	A	D	3F
Q5310	B	C	3C
Q5311	B	C	4F
Q5312	A	D	1D
Q5318	B	C	2C
Q5320	A	D	4G
Q5321	B	C	4F
Q5322	B	C	4D
Q6030	B	C	22I
Q6031	B	C	22J
Q6032	B	C	21J
Q6501	B	C	19N
Q6502	B	C	18N
Q6551	A	D	22O
Q7201	A	D	20P
RESISTOR			
R1	B	C	14L
R2	B	C	14L
R3	B	C	15L
R4	B	C	12N
R5	B	C	12N
R6	B	C	11M
R7	B	C	10N
R8	B	C	8M
R9	B	C	8M
R21	B	C	13G
R22	B	C	13G
R23	B	C	14L
R24	B	C	14G
R25	B	C	15G
R26	B	C	14G
R27	B	C	15G
R28	B	C	14H
R29	B	C	15G
R30	B	C	15H
R31	B	C	15H
R32	B	C	15G
R33	B	C	16L
R34	B	C	16L
R35	B	C	15L
R36	B	C	8N
R37	B	C	10N
R38	B	C	10N
R39	B	C	9N
R40	B	C	8N
R41	B	C	8N
R42	B	C	8N
R43	B	C	8N
R44	B	C	7N
R45	B	C	7N
R46	B	C	12O
R47	B	C	12N
R48	B	C	12O
R51	B	C	8N
R54	B	C	15M
R61	B	C	19I
R62	B	C	16M
R65	B	C	13L
R66	B	C	13M
R68	B	C	17I
R69	B	C	13N
R70	B	C	14M
R72	B	C	12O
R73	B	C	12O
R75	B	C	14M
R76	B	C	11O
R77	B	C	13J
R79	B	C	10M
R80	B	C	12O
R81	B	C	10N
R82	B	C	16M
R84	B	C	16N
R85	B	C	16L
R88	B	C	8N
R90	B	C	14M
R91	B	C	13N
R92	B	C	15M
R93	B	C	15M
R94	B	C	9N
R98	B	C	14E
R99	B	C	15E
R104	B	C	15M
R113	B	C	13L
R114	B	C	16O
R115	B	C	7G
R117	B	C	10N
R401	B	C	16J
R402	B	C	16J
R403	B	C	16J
R404	B	C	16I
R405	B	C	16I
R406	B	C	16I
R407	B	C	19G
R408	B	C	19F
R409	B	C	15F
R2001	B	C	7L
R2002	B	C	7M
R2003	A	D	7K
R2005	A	D	9I
R2006	A	D	10I
R2007	B	C	8J
R2008	B	C	9J
R2009	B	C	10J
R2010	B	C	10K
R2011	B	C	14K
R2012	B	C	11I
R2013	B	C	13K
R2014	B	C	13K
R2015	B	C	14J
R2016	B	C	13K
R2017	B	C	13K
R2018	B	C	14K
R2019	B	C	14K
R2020	B	C	14K
R2051	B	C	18L
R2052	B	C	18L
R2053	B	C	18L
R2056	B	C	18L
R2057	B	C	18H
R2058	B	C	18H
R2059	B	C	19H
R2060	B	C	19H
R2061	B	C	21F
R2062	B	C	21F
R2063	B	C	21G
R2064	B	C	19H
R2065	B	C	18G
R2102	B	C	13K
R2103	B	C	9M
R2104	B	C	9M
R2105	B	C	9M
R2106	B	C	8M
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R2108	B	C	8M
R2109	B	C	8M
R2110	B	C	8M
R2111	B	C	9M
R2121	A	D	8L
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R2205	B	C	9K
R2206	A	D	7K
R2208	A	D	8K
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R2213	A	D	9J
R2214	B	C	9J
R2215	B	C	10J
R2216	A	D	10J
R2217	B	C	10I
R2218	B	C	10I
R2219	A	D	9J
R2220	A	D	9J
R2221	B	C	10K
R2222	B	C	10J
R2223	B	C	10J
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R2226	B	C	9H
R2227	B	C	9I
R2228	B	C	10L
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R2231	A	D	9L
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R2514	B	C	20C
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R2522	B	C	17C
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R3012	B	C	8F
R3013	B	C	8F
R3014	B	C	8F
R3015	B	C	8E
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R3019	A	D	7F
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R3022	B	C	8E
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R3027	B	C	7E
R3029	B	C	8E
R3030	B	C	8E
R3031	B	C	8D
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R3106	B	C	11F
R3201	B	C	8J
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R3217	B	C	7D
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R3231	B	C	12C
R3233	B	C	7D
R3234	B	C	7D
R3235	B	C	8C
R3236	B	C	8C
R3237	B	C	2B
R3238	A	D	2B
R3239	B	C	2B
R3241	B	C	3A
R3242	B	C	8F
R3243	B	C	4A
R3244	B	C	2B
R3245	B	C	9F
R3246	B	C	7E
R3247	B	C	7E
R3251	B	C	3A
R3252	B	C	8F
R3501	B	C	4C
R3502	B	C	4C
R3503	B	C	4C
R3504	B	C	4C
R3505	B	C	4C
R3506	B	C	4C
R3671	B	C	16C
R3672	B	C	16C
R3673	B	C	16C
R4001	B	C	12F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4007	B	C	8F
R4008	B	C	8E
R4009	B	C	11E
R4010	B	C	12F
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R4018	B	C	10F
R4019	B	C	11F
R4020	B	C	10G
R4021	B	C	10G
R5001	A	D	4P
R5101	A	D	4N
R5102	A	D	2K
R5103	B	C	2L
R5104	A	D	1L
R5105	A	D	2L
R5106	B	C	3K
R5107	A	D	4M
R5108	A	D	3M
R5109	A	D	3L
R5110	B	C	3L
R5301	A	D	1C
R5302	B	C	3F
R5303	B	C	4E
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R5307	B	C	1G
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R5313	A	D	1C
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R5323	B	C	3F
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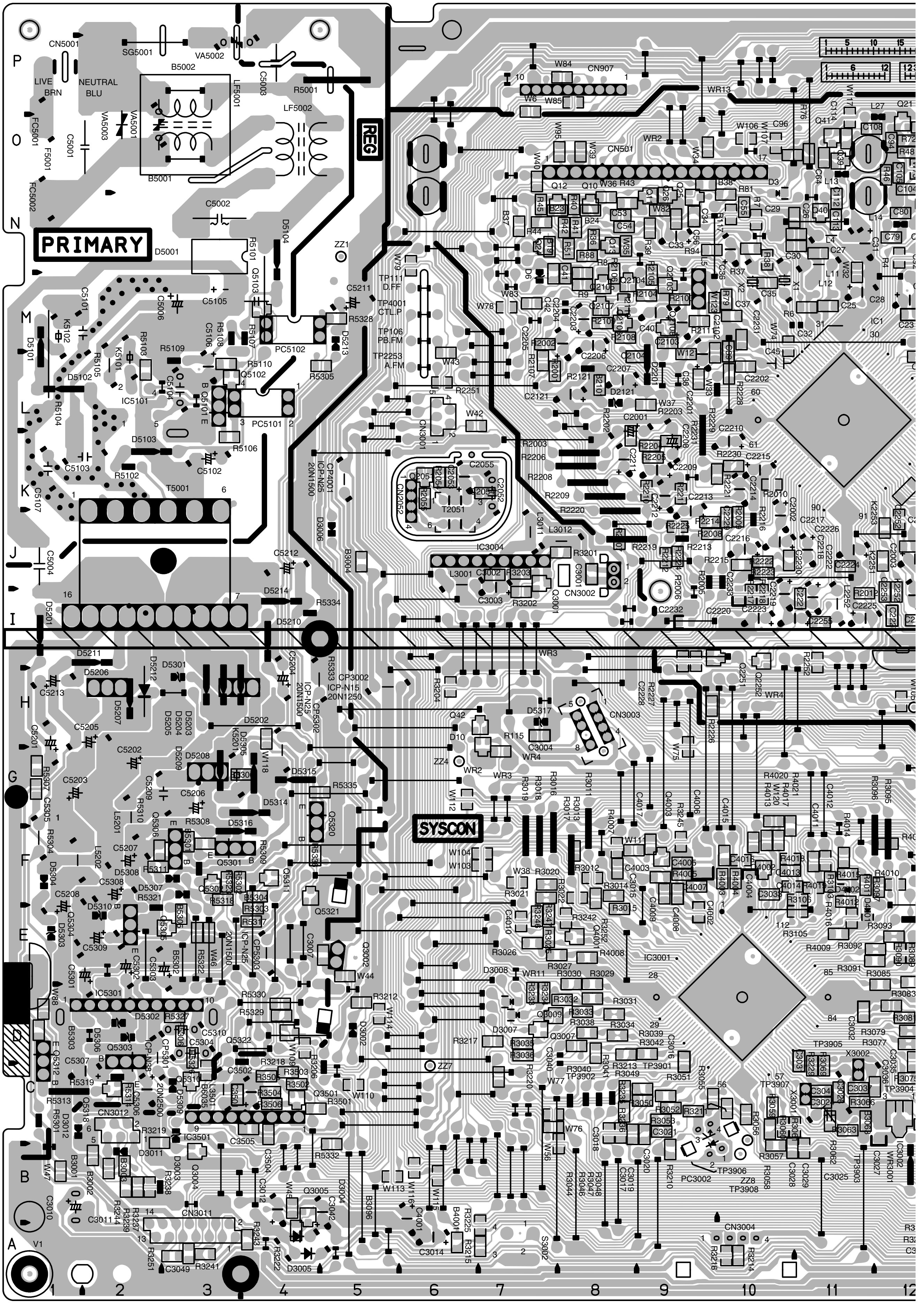
R5327	B	C	3D
R5328	B	C	5M
R5329	B	C	4D
R5330	B	C	4D
R5332	B	C	5B
R5333	A	D	4H
R5334	A	D	5I
R5335	B	C	5G
R5336	B	C	4F
R6020	B	C	21N
R6021	B	C	21N
R6022	B	C	21N
R6025	B	C	21N
R6030	B	C	22J
R6031	B	C	22J
R6032	B	C	21L
R6033	B	C	21J
R6034	B	C	22J
R6038	B	C	22L
R6050	B	C	21O
R6051	B	C	21O
R6052	B	C	21O
R6053	B	C	22N
R6060	B	C	22N
R6061	B	C	22N
R6508	B	C	19N
R6509	B	C	19N
R6510	B	C	19N
R6511	B	C	19N
R6551	A	D	22O
R6552	B	C	22O
R6553	A	D	20O
R6554	A	D	20N
R6601	B	C	18M
R7202	B	C	20O
R7203	B	C	20O
R7204	A	D	19P
R7251	B	C	21A
R7252	B	C	21A
R7253	B	C	21A
TESTPOINT			
TP106	A	D	6M
TP111	A	D	6M
TP2253	A	D	6L
TP3901	B	C	9C
TP3902	B	C	8C
TP3903	B	C	11C
TP3904	B	C	12C
TP3905	B	C	11C
TP3906	B	C	10C
TP3907	B	C	10C
TP3908	B	C	10C
TP4001	A	D	6M
OTHER			
CF2501	A	D	17D
CF6031	A	D	22J
CP3002	A	D	6H
CP4001	A	D	5K
CP5301	A	D	2D
CP5302	A	D	4H
CP5303	A	D	4E
F5001	A	D	1P
FC5001	A	D	1P
FC5002	A	D	1N
K2251	B	C	12J
K2252	B	C	12I
K2253	B	C	12J
K5101	A	D	2L
K5102	A	D	1M
K5201	A	D	3G
LC2501	A	D	17B
LF5001	A	D	2P
LF5002	A	D	5O
LPF2501	A	D	20C
PC3001	A	D	17A
PC3002	A	D	9C
PC5101	A	D	4L
PC5102	A	D	5M
S3002	A	D	7A
SG5001	A	D	2P
T2052	A	D	21F
T5001	A	D	2J
TU6001	A	D	21P
VA5001	A	D	2P
VA5002	A	D	4P
VA5003	A	D	2P
WR1	A	D	16G
WR2	A	D	7G
WR3	A	D	7G
WR4	A	D	7G
WR11	A	D	7E
WR15	A	D	21J
WR16	A	D	21J
WR17	A	D	21P
WR18	A	D	22Q
WR101	A	D	14J
WR901	A	D	21A
WR3001	A	D	12C
X1	A	D	10N
X2	A	D	10M
X3001	A	D	11C
X3002	A	D	11C

4.1 MAIN CIRCUIT BOARD

<03> MAIN
LPB10106-001D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REG
SYSCON
P
O
N
M
L
K
J
I
H
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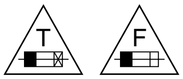
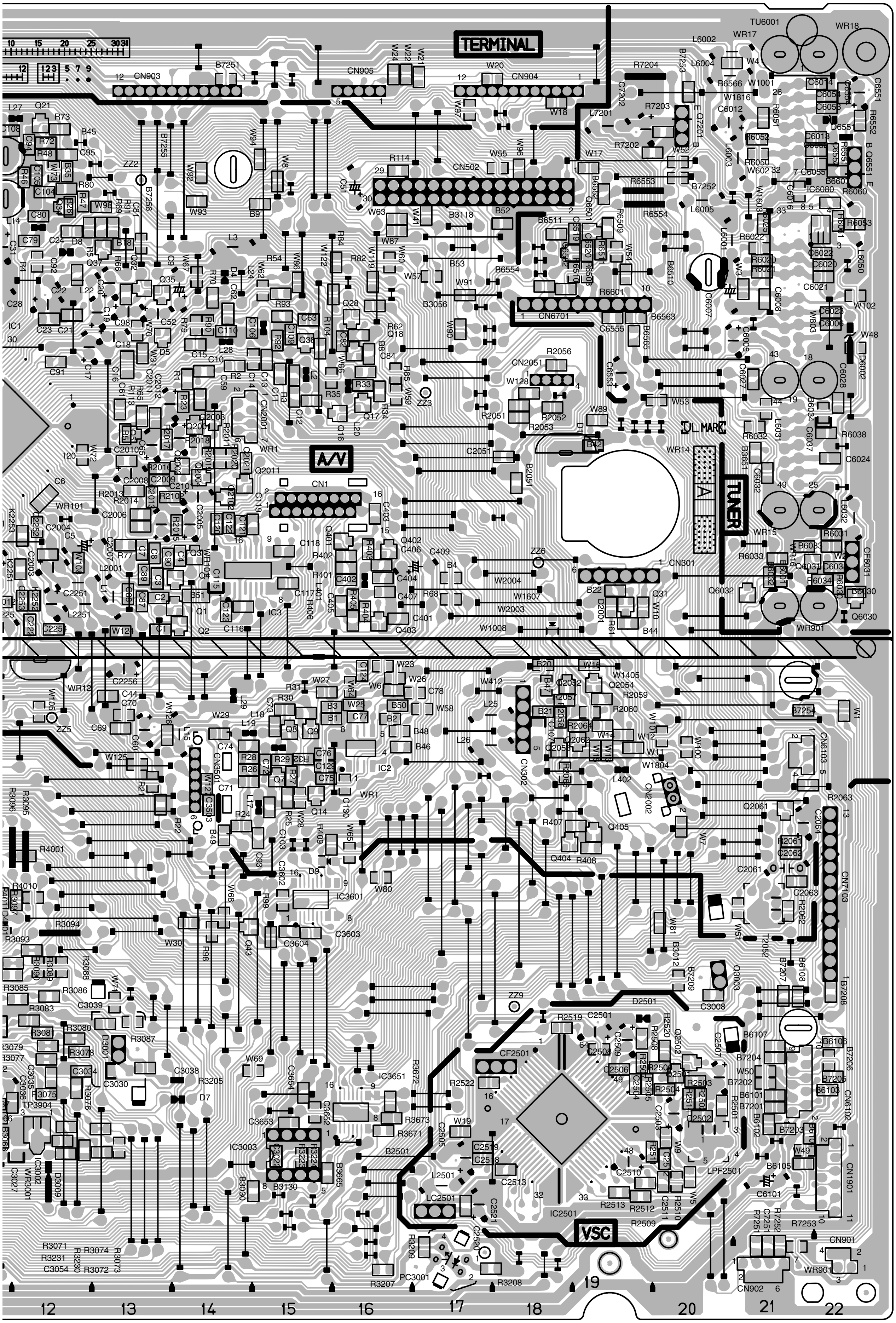
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
CN5001
SG5001
VA5002
B5002
LIVE
BRN
NEUTRAL
BLU
LF5001
C5003
R5001
LF5002
FC5001
VA5003
VA5001
C5001
F5001
B5001
FC5002
C5002
D5001
R5101
D5104
ZZ1
T5001
IC5101
PC5101
PC5102
Q5101
Q5102
D5201
D5211
CN907
CN501
CN3001
CN2052
CN3002
CN3003
CN3004
CN3011
CN3012
IC3001
IC3004
IC3501
IC5301
IC1
T2051
TP111
D.FF
TP4001
CTL.P
TP106
PB.FM
TP2253
A.FM
CP4001
ICP-N25
20N1500
CP3002
ICP-N15
20N1250
CP5302
ICP-N25
20N1500
CP5303
PC3002
X3001
X3002
ZZ4
ZZ7
ZZ8
TP3901
TP3902
TP3903
TP3904
TP3905
TP3906
TP3907
TP3908
S3002
V1

CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE CP(S) MANUFACTURED BY ROHM.
ATTENTION :
REPLACER PAR DES FUSIBLE DE MEME TYPE.




TERMINAL
CN903
CN905
CN904
CN502
CN6701
CN2051
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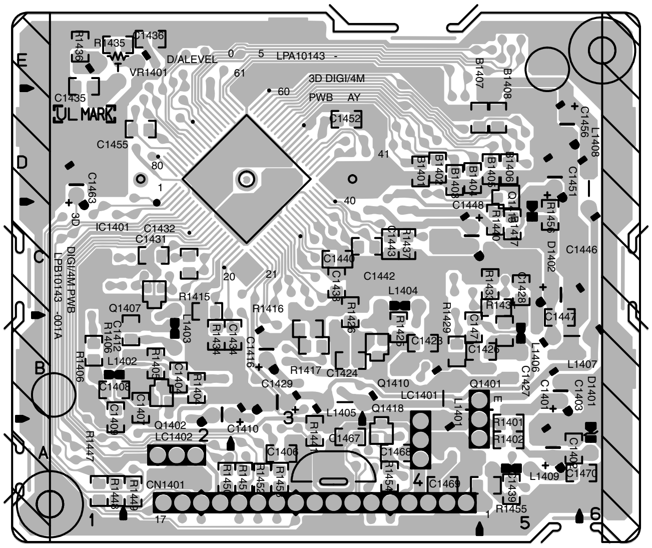
CN301
CN302
CN3501
CN2002
CN6103
CN7103
CN6102
CN1901
CN901
CN902
TU6001
A/V
TUNER
UL MARK
IC2
IC3
IC3601
IC3651
IC3003
IC3002
IC2501
IC6080
VSC
CF2501
LPF2501
LC2501
PC3001
12
13
14
15
16
17
18
19
20
21
22

4.2 3D DIGITAL/4M CIRCUIT BOARD

<05> 3D DIGITAL/4M
LPB10143-001A

FOIL SIDE(B)



E
D
C
B
A
1
2
3
4
5
6
C1436
R1435
R1436
D/ALEVEL
0
5
LPA10143
61
VR1401
3D DIGI/4M
PWB AY
60
C1435
UL MARK
C1452
C1455
80
1
40
41
C1463
3D
IC1401
C1432
C1431
DIGI/4M PWB
LPB10143 -001A
20
21
C1440
C1442
L1404
Q1407
R1415
R1416
R1429
C1428
C1447
C1426
C1412
R1406
L1403
L1402
R1434
C1414
C1416
C1424
R1417
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Q1401
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L1406
C1427
L1407
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C1403
C1408
C1409
C1404
C1405
Q1402
LC1402
C1410
L1405
Q1418
C1467
C1468
R1401
R1402
C1401
R1447
CN1401
C1406
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C1439
L1409
C1470
R1455
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B1407
B1408
C1456
L1408
C1451
C1446
C1448
R1457
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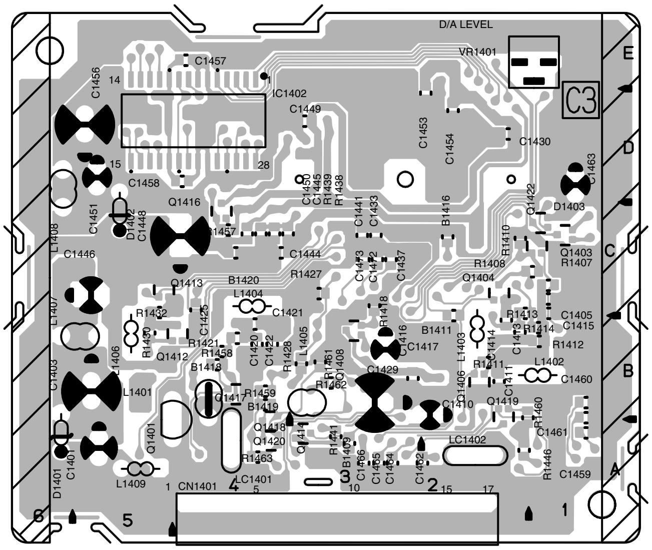
R1437
C1443
R1443
C1443
R1427
R1431
L1401
C1471

COMPONENT SIDE(A)



D/A LEVEL
VR1401
C3
E
D
C
B
A
1
2
3
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6
C1457
C1456
14
IC1402
C1449
15
28
C1453
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C1430
C1463
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Q1416
C1450
C1445
R1439
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Q1422
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D1402
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Q1403
R1407
C1446
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Q1413
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B1411
L1403
R1413
R1414
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R1412
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C1416
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C1403
B1418
R1431
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Q1408
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C1411
Q1419
L1401
Q1417
R1459
B1419
C1410
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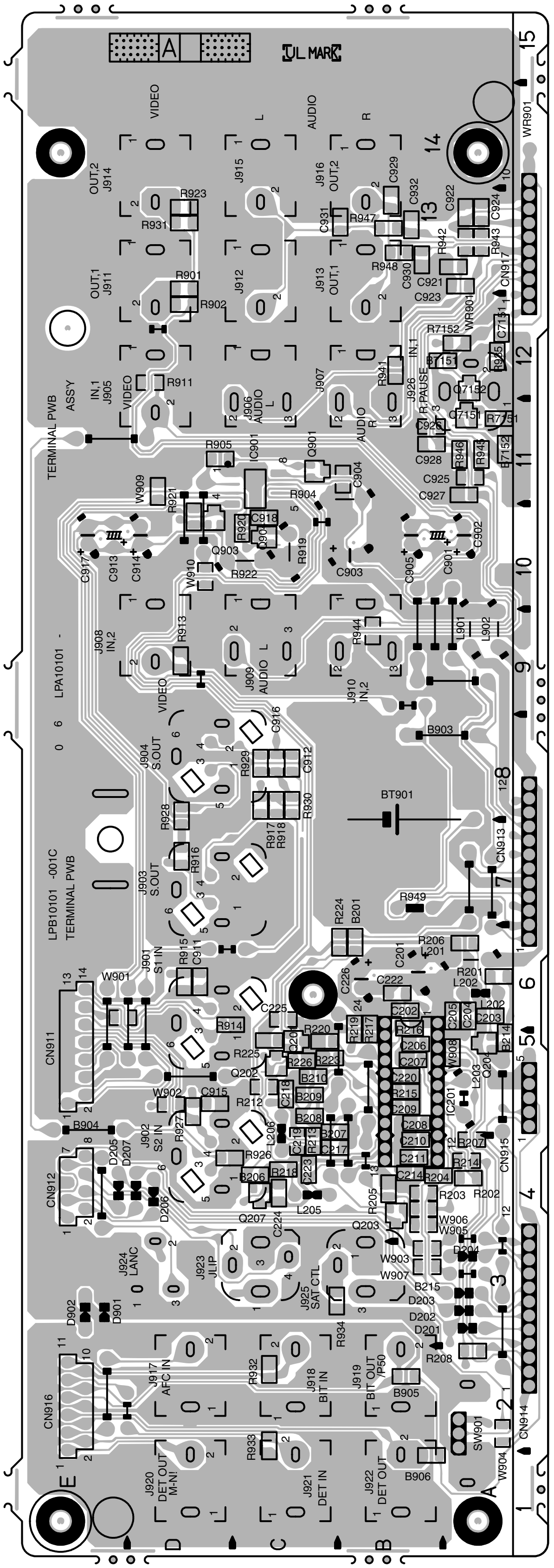
Q1401
Q1418
Q1420
Q1414
R1441
R1463
B1409
C1465
C1464
C1462
LC1402
C1461
R1446
C1401
D1401
L1409
CN1401
LC1401
C1459
10
15
17

COMPONENT PART LOCATION GUIDE <3D DIGITAL/4M>

REF.NO.	LOCATION		
CAPACITOR			
C1401	A	D	5A
C1402	B	C	5A
C1403	A	D	5B
C1404	B	C	2B
C1405	A	C	1C
C1406	B	C	3A
C1407	B	C	2B
C1408	B	C	1B
C1409	B	C	1B
C1410	A	D	2B
C1411	A	C	2B
C1412	B	C	2B
C1413	A	C	2B
C1414	A	C	2B
C1415	A	C	1C
C1416	A	D	3B
C1417	A	C	3B
C1420	A	C	4B
C1421	A	C	4B
C1422	A	C	4B
C1423	B	C	4B
C1424	B	C	3B
C1425	A	C	4C
C1426	B	C	5B
C1427	B	C	5B
C1428	B	C	5C
C1429	A	D	3B
C1430	A	C	2D
C1431	B	C	2C
C1432	B	C	2C
C1433	A	C	3C
C1434	B	C	2B
C1435	B	C	1E
C1436	B	C	2E
C1437	A	C	3C
C1438	B	C	3C
C1439	B	C	5A
C1440	B	C	3C
C1441	A	C	3C
C1442	B	C	4C
C1443	B	C	4C
C1444	A	C	4C
C1445	A	C	4C
C1446	A	D	5C
C1447	B	C	5B
C1448	A	D	5C
C1449	A	C	3D
C1450	A	C	4C
C1451	A	D	5D
C1452	B	C	3D
C1453	A	C	2D
C1454	A	C	2D
C1455	B	C	2D
C1456	A	D	5D
C1457	A	C	5E
C1458	A	C	5D
C1459	A	C	1A
C1460	A	C	1B
C1461	A	C	1B
C1462	A	C	2A
C1463	A	D	1D
C1464	A	C	3A
C1465	A	C	3A
C1466	A	C	3A
C1467	B	C	3A
C1468	B	C	4A
C1469	B	C	4A
C1470	B	C	6A
C1471	B	C	5B
C1472	A	C	3C
C1473	A	C	3C
CONNECTOR			
CN1401	A	D	5A
DIODE			
D1401	A	D	6B
D1402	A	D	5D
D1403	A	C	1C
IC			
IC1401	B	C	3D
IC1402	A	C	4D
COIL			
L1401	A	D	4B
L1402	A	D	1B
L1403	A	D	2B
L1404	A	D	4C
L1405	A	D	4B
L1406	A	D	5B
L1407	A	D	6B
L1408	A	D	6C
L1409	A	D	5A
TRANSISTOR			
Q1401	A	D	5B
Q1402	B	C	2B
Q1403	A	C	1C
Q1404	A	C	2C
Q1406	A	C	2B
Q1407	B	C	2C
Q1408	A	C	3B
Q1410	B	C	4B
Q1412	A	C	5B
Q1413	A	C	5C
Q1414	A	C	3A
Q1415	B	C	5D
Q1416	A	C	4C
Q1417	A	C	4B
Q1418	B	C	4A
Q1419	A	C	2B
Q1420	A	C	4A
Q1421	A	C	4B
Q1422	A	C	1C
RESISTOR			
R1401	B	C	5B
R1402	B	C	5A
R1404	B	C	2B
R1405	B	C	2B
R1406	B	C	1B
R1407	A	C	1C
R1408	A	C	1C
R1410	A	C	2C
R1411	A	C	2B
R1412	A	C	1B
R1413	A	C	2C
R1414	A	C	1B
R1415	B	C	2C
R1416	B	C	3B
R1417	B	C	3B
R1418	A	C	3C
R1421	A	C	4B
R1425	B	C	4B
R1426	B	C	3C
R1427	A	C	3C
R1428	A	C	3B
R1429	B	C	4B
R1430	A	C	5B
R1431	B	C	5C
R1432	A	C	5C
R1433	B	C	5C
R1434	B	C	2B
R1435	B	C	1E
R1436	B	C	1E
R1437	B	C	4C
R1438	A	C	4C
R1439	A	C	4C
R1440	B	C	5C
R1441	B	C	3A
R1442	A	C	3A
R1446	A	C	2A
R1447	B	C	1A
R1448	B	C	1A
R1449	B	C	2A
R1450	B	C	2A
R1451	B	C	3A
R1452	B	C	3A
R1453	B	C	3A
R1454	B	C	4A
R1455	B	C	5A
R1456	B	C	5C
R1457	A	C	4C
R1458	A	C	4B
R1459	A	C	4B
R1460	A	C	1B
R1461	A	C	3B
R1462	A	C	3B
R1463	A	C	4A
VR1401	A	D	1E
OTHER			
LC1401	A	D	4A
LC1402	A	D	2A

4.3 TERMINAL CIRCUIT BOARD

<06> TERMINAL
LPB10101-001C


A
UL MARK
VIDEO
L
AUDIO
R
WR901
14
13
12
11
10
9
8
7
6
5
4
3
2
1
15
OUT,2 J914
J915
J916 OUT,2
OUT,1 J911
J912
J913 OUT,1
IN,1 J905 VIDEO
J906 AUDIO L
J907
AUDIO R
J926 R.PAUSE IN,1
TERMINAL PWB ASSY
J908 IN,2
J909 AUDIO L
J910 IN,2
VIDEO
J904 S.OUT
J903 S.OUT
J901 S1 IN
J902 S2 IN
LPA10101 - 0 6
LPB10101 -001C TERMINAL PWB
BT901
CN913
CN911
CN912
CN915
CN916
CN917
CN914
J924 LANC
J923 JLIP
J925 SAT.CTL
J917 AFC IN
J918 BIT IN
J919 BIT OUT /P50
J920 DET OUT M-N!
J921 DET IN
J922 DET OUT
SW901
W904
E
D
C
B
A
IC901
IC201
Q901
Q903
Q202
Q207
Q203
B903
B904
B905
B906
B215
D202
D201
D203
D204
D205
D206
D207
D901
D902
W901
W902
W903
W905
W906
W907
W908
W909
W910
L201
L202
L203
L205
L901
L902
R949
R224
B201
R206
R201

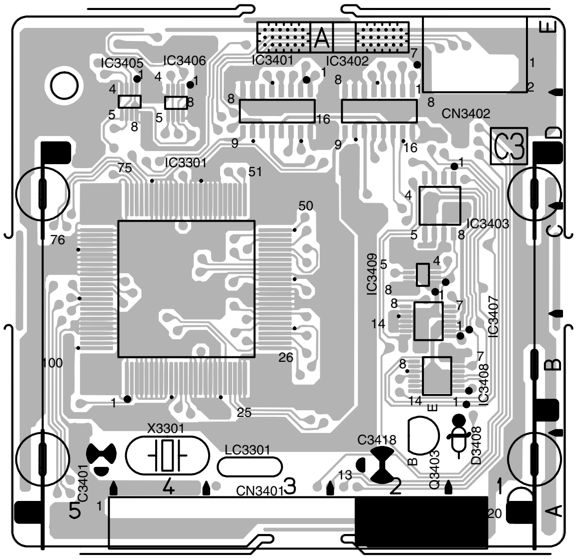
COMPONENT PART LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C201	A	D	6B
C202	B	C	6B
C203	B	C	6A
C204	B	C	6A
C205	B	C	6A
C206	B	C	5B
C207	B	C	5B
C208	B	C	5B
C209	B	C	5B
C210	B	C	4B
C211	B	C	4B
C214	B	C	4B
C217	B	C	4C
C218	B	C	5C
C219	B	C	4C
C220	B	C	5B
C222	B	C	6B
C223	B	C	4C
C224	B	C	4C
C225	B	C	6C
C226	A	D	6B
C901	A	D	10B
C902	A	D	10A
C903	A	D	10B
C904	B	C	11B
C905	A	D	10B
C911	B	C	6D
C912	B	C	8C
C913	A	D	10E
C914	A	D	10D
C915	B	C	5D
C916	B	C	8C
C917	A	D	10E
C918	B	C	10C
C921	B	C	13A
C922	B	C	13A
C923	B	C	13A
C924	B	C	13A
C925	B	C	11A
C926	B	C	11B
C927	B	C	11A
C928	B	C	11B
C929	B	C	13B
C930	B	C	13B
C931	B	C	13B
C932	B	C	13B
C7151	B	C	12A
CONNECTOR			
CN911	A	D	5E
CN912	A	D	4E
CN913	A	D	6A
CN914	A	D	2A
CN915	A	D	5A
CN916	A	D	2E
CN917	A	D	12A
DIODE			
D201	A	D	3A
D202	A	D	3A
D203	A	D	3A
D204	A	D	3A
D205	A	D	4E
D206	A	D	4D
D207	A	D	4D
D901	A	D	3E
D902	A	D	3E
IC			
IC201	A	D	6B
IC901	B	C	11C
JACK			
J901	A	D	6D
J902	A	D	4D
J903	A	D	7D
J904	A	D	8D
J905	A	D	12D
J906	A	D	12C
J907	A	D	12B
J908	A	D	9D
J909	A	D	9C
J910	A	D	9B
J911	A	D	13D
J912	A	D	13C
J913	A	D	13B
J914	A	D	14D
J915	A	D	14C
J916	A	D	14B
J917	A	D	2D
J918	A	D	2C
J919	A	D	2B
J920	A	D	1D
J921	A	D	1C
J922	A	D	1B
J923	A	D	3C
J924	A	D	3D
J925	A	D	3B
J926	A	D	12A
COIL			
L201	A	D	6A
L202	A	D	6A
L203	A	D	5A
L205	A	D	4C
L206	A	D	4C
L901	A	D	9A
L902	A	D	9A
TRANSISTOR			
Q201	B	C	5C
Q202	B	C	5C
Q203	B	C	4B
Q204	B	C	5A
Q207	B	C	4C
Q901	B	C	11C
Q903	B	C	10D
Q904	B	C	10C
Q7151	B	C	11A
Q7152	B	C	12A
RESISTOR			
R201	B	C	6A
R202	B	C	4A
R203	B	C	4B
R204	B	C	4B
R205	B	C	4B
R206	B	C	6A
R207	B	C	4A
R208	B	C	2A
R212	B	C	5C
R213	B	C	4C
R214	B	C	4A
R215	B	C	5B
R216	B	C	6B
R217	B	C	6B
R218	B	C	4C
R219	B	C	6B
R220	B	C	5C
R223	B	C	5C
R224	B	C	6B
R225	B	C	5C
R226	B	C	5C
R901	B	C	13D
R902	B	C	12D
R904	A	D	11B
R905	B	C	11D
R911	B	C	12D
R913	B	C	9D
R914	B	C	6D
R915	B	C	6D
R916	B	C	7D
R917	B	C	8C
R918	B	C	8C
R919	A	D	10C
R920	B	C	10C
R921	B	C	10D
R922	A	D	10C
R923	B	C	13D
R926	B	C	4D
R927	B	C	5D
R928	B	C	8D
R929	B	C	8C
R930	B	C	8C
R931	B	C	13D
R932	B	C	2C
R933	B	C	2C
R934	B	C	3C
R935	B	C	12A
R941	B	C	12B
R942	B	C	13A
R943	B	C	13A
R944	B	C	9B
R945	B	C	11A
R946	B	C	11A
R947	B	C	13B
R948	B	C	13B
R949	A	D	7B
R7151	B	C	11A
R7152	B	C	12A
OTHER			
BT901	A	D	8B
SW901	A	D	2A
WR901	A	D	12A

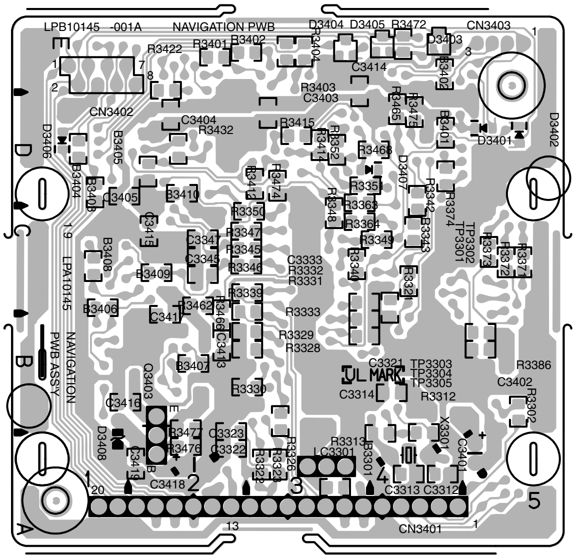
4.4 NAVIGATION CIRCUIT BOARD

<19> NAVIGATION
LPB10145-001A

COMPONENT SIDE(A)


IC3405
IC3406
IC3401
IC3402
CN3402
IC3301
IC3403
IC3409
IC3407
IC3408
X3301
LC3301
C3418
Q3403
D3408
C3401
CN3401
A
B
C
D
E
1
2
3
4
5
20

FOIL SIDE(B)


LPB10145 -001A
NAVIGATION PWB
CN3403
CN3402
CN3401
LPA10145
NAVIGATION PWB ASS'Y
D3401
D3402
D3403
D3404
D3405
D3406
D3407
D3408
C3312
C3313
C3314
C3321
C3322
C3323
C3333
C3345
C3347
C3402
C3403
C3404
C3405
C3413
C3414
C3415
C3416
C3417
C3418
C3419
C3401
R3302
R3312
R3313
R3328
R3329
R3330
R3331
R3332
R3333
R3339
R3345
R3346
R3347
R3349
R3350
R3351
R3363
R3364
R3386
R3401
R3402
R3403
R3415
R3422
R3432
R3462
R3468
R3472
R3476
R3477
TP3301
TP3302
TP3303
TP3304
TP3305
X3301
LC3301
Q3403
UL MARK
A
B
C
D
E
1
2
3
4
5

COMPONENT PART LOCATION GUIDE <NAVIGATION>

REF.NO.	LOCATION		
CAPACITOR			
C3312	B	C	4A
C3313	B	C	4A
C3314	B	C	4B
C3321	B	C	4C
C3322	B	C	2A
C3323	B	C	2B
C3333	B	C	4C
C3345	B	C	2C
C3346	B	C	2C
C3347	B	C	2C
C3401	A	D	5A
C3402	B	C	5B
C3403	B	C	3D
C3404	B	C	2D
C3405	B	C	1D
C3413	B	C	2B
C3414	B	C	4E
C3415	B	C	2C
C3416	B	C	2B
C3417	B	C	2C
C3418	A	D	2A
C3419	B	C	2A
CONNECTOR			
CN3401	A	D	4A
CN3402	A	D	1E
DIODE			
D3401	B	C	5D
D3402	B	C	5D
D3403	B	C	4E
D3404	B	C	3E
D3405	B	C	4E
D3406	B	C	1D
D3407	B	C	4D
D3408	A	D	1A
IC			
IC3301	A	C	4C
IC3401	A	C	3D
IC3402	A	C	2D
IC3403	A	C	2D
IC3405	A	C	4D
IC3406	A	C	4D
IC3407	A	C	2B
IC3408	A	C	2B
IC3409	A	C	2C
TRANSISTOR			
Q3403	A	D	2B
RESISTOR			
R3302	B	C	5B
R3312	B	C	4B
R3313	B	C	4A
R3321	B	C	4C
R3322	B	C	3A
R3323	B	C	3A
R3326	B	C	3B
R3328	B	C	3B
R3329	B	C	3B
R3330	B	C	3B
R3331	B	C	4B
R3332	B	C	4C
R3333	B	C	3C
R3339	B	C	3C
R3340	B	C	4C
R3342	B	C	4D
R3343	B	C	4C
R3345	B	C	3C
R3346	B	C	3C
R3347	B	C	3C
R3348	B	C	3C
R3349	B	C	4C
R3350	B	C	3C
R3351	B	C	4D
R3352	B	C	3D
R3363	B	C	4D
R3364	B	C	4C
R3371	B	C	5C
R3372	B	C	5C
R3373	B	C	5C
R3374	B	C	4D
R3386	B	C	5B
R3401	B	C	2E
R3402	B	C	3E
R3403	B	C	3E
R3404	B	C	3E
R3412	B	C	3D
R3414	B	C	3D
R3415	B	C	3D
R3422	B	C	2E
R3432	B	C	2D
R3462	B	C	2C
R3465	B	C	4D
R3466	B	C	2C
R3468	B	C	4D
R3472	B	C	4E
R3474	B	C	3D
R3475	B	C	4D
R3476	B	C	2A
R3477	B	C	2B
OTHER			
LC3301	A	D	3A
TP3301	B	C	4C
TP3302	B	C	4C
TP3303	B	C	5C
TP3304	B	C	5C
TP3305	B	C	5C
X3301	A	D	4A

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

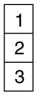
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

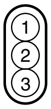
AUX : Active at high

$\overline{\text{AUX}}$ or AUX(L) : Active at low

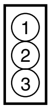
3. Interpreting Connector indications



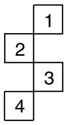
Removable connector



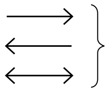
Wire soldered directly on board



Non-removable Board connector



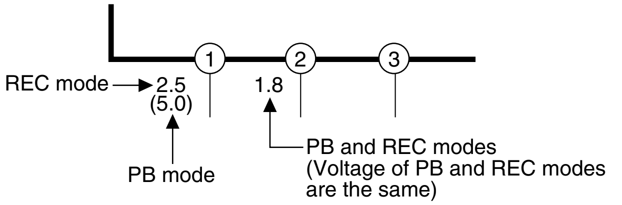
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

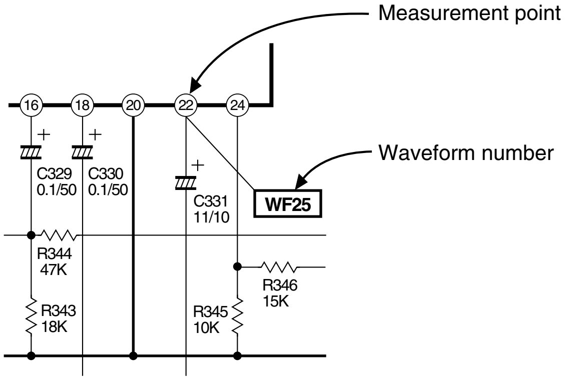
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.


①
②
③
REC mode
2.5
(5.0)
1.8
PB mode
PB and REC modes
(Voltage of PB and REC modes are the same)

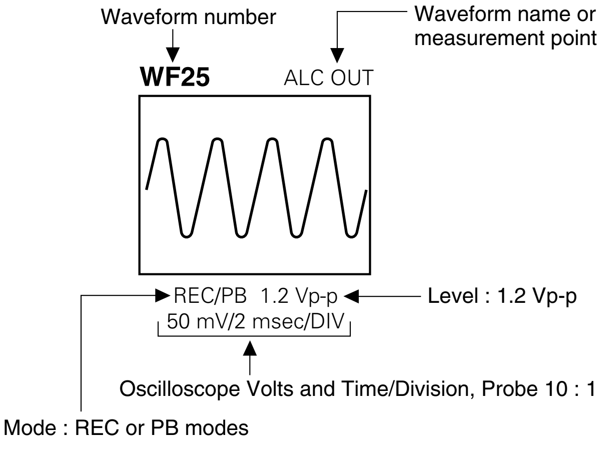
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


Measurement point
Waveform number
16
18
20
22
24
C329
0.1/50
C330
0.1/50
C331
11/10
WF25
R344
47K
R343
18K
R345
10K
R346
15K

5) Waveform indications


Waveform number
Waveform name or measurement point
WF25
ALC OUT
REC/PB 1.2 Vp-p
50 mV/2 msec/DIV
Level : 1.2 Vp-p
Oscilloscope Volts and Time/Division, Probe 10 : 1
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

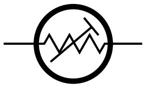
⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
⇨▷	Capstan servo path
➡▶	Drum servo path

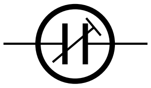
(Example)

⇨	R-Y	Playback R-Y signal path
➡	Y	Recording Y signal path

7. Indication of the parts for adjustments

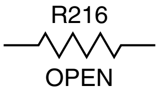
The parts for the adjustments are surrounded with the circle as shown below.





8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



CIRCUIT BOARD NOTES

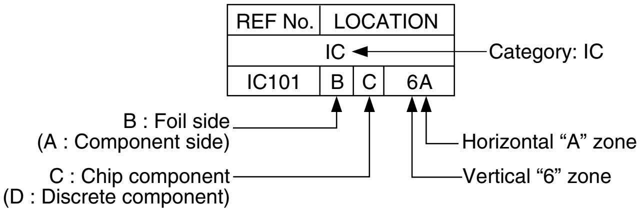
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

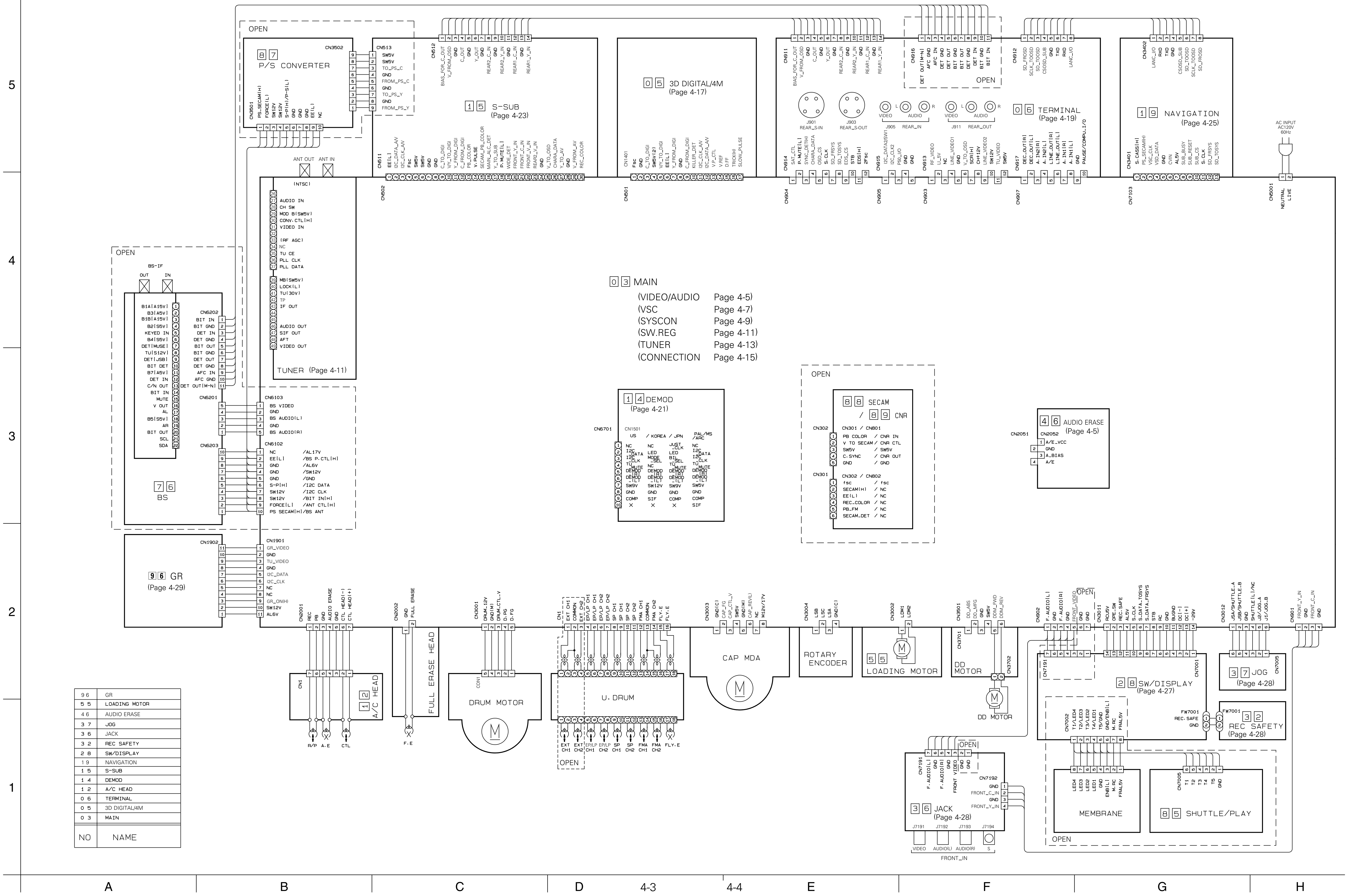
Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category: IC
IC101
B
C
6A
B : Foil side
(A : Component side)
C : Chip component
(D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

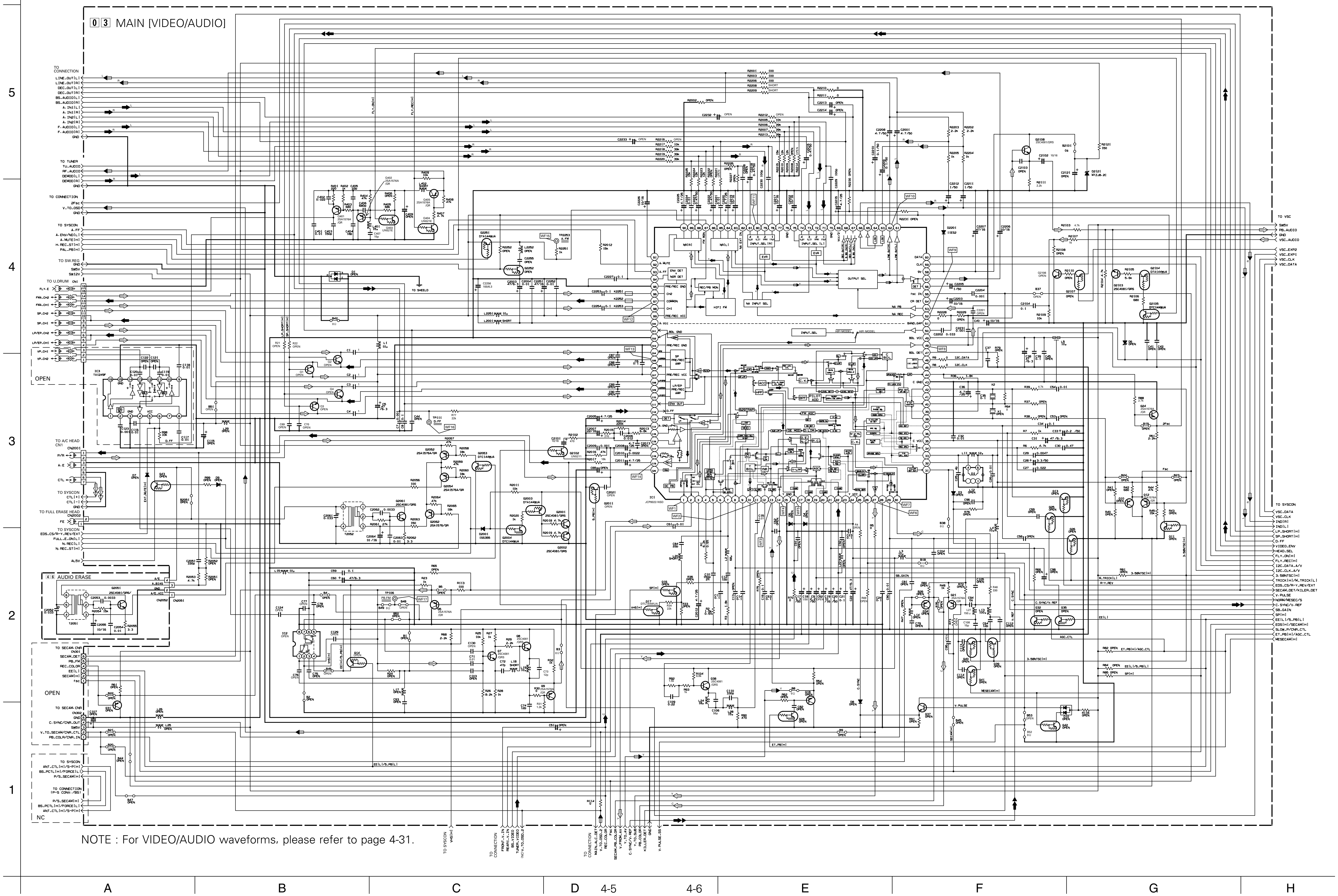


87 P/S CONVERTER
CN3502
CN3501
CN513
OPEN
15 S-SUB (Page 4-23)
CN512
CN511
CN502
05 3D DIGITAL/4M (Page 4-17)
CN1401
CN501
CN911
CN916
J901 REAR_S-IN
J903 REAR_S-OUT
J905 REAR_IN
J911 REAR_OUT
VIDEO
AUDIO
06 TERMINAL (Page 4-19)
CN912
CN914
CN915
CN913
CN917
CN904
CN905
CN903
CN907
CN3402
19 NAVIGATION (Page 4-25)
CN3401
CN7103
AC INPUT AC120V 60Hz
CN5001
NEUTRAL
LIVE
ANT OUT
ANT IN
(NTSC)
TUNER (Page 4-11)
BS-IF
OUT
IN
CN6202
CN6201
CN6203
76 BS
CN6103
CN6102
03 MAIN
(VIDEO/AUDIO Page 4-5)
(VSC Page 4-7)
(SYSCON Page 4-9)
(SW.REG Page 4-11)
(TUNER Page 4-13)
(CONNECTION Page 4-15)
14 DEMOD (Page 4-21)
CN6701
CN1501
88 SECAM / 89 CNR
CN302
CN301
CN2051
46 AUDIO ERASE (Page 4-5)
CN2052
CN1902
96 GR (Page 4-29)
CN1901
CN2001
CN1
12 A/C HEAD
R/P
A.E
CTL
CN2002
FULL ERASE HEAD
F.E
CN3001
CON1
DRUM MOTOR
CN1
U. DRUM
EXT CH1
EXT CH2
EP/LP CH1
EP/LP CH2
SP CH1
SP CH2
FMA CH1
FMA CH2
FLY.E
CN3003
CAP MDA
CN3004
ROTARY ENCODER
CN3002
55 LOADING MOTOR
CN3501
CN3701
CN3702
DD MOTOR
CN902
CN7191
CN3011
CN7001
28 SW/DISPLAY (Page 4-27)
CN7002
FW7001
REC. SAFE
32 REC SAFETY (Page 4-28)
CN3012
37 JOG (Page 4-28)
CN7005
CN901
CN7192
36 JACK (Page 4-28)
J7191
J7192
J7193
J7194
VIDEO
AUDIO(L)
AUDIO(R)
S
FRONT_IN
MEMBRANE
85 SHUTTLE/PLAY
A
B
C
D
E
F
G
H
1
2
3
4
5

NO	NAME
96	GR
55	LOADING MOTOR
46	AUDIO ERASE
37	JOG
36	JACK
32	REC SAFETY
28	SW/DISPLAY
19	NAVIGATION
15	S-SUB
14	DEMOD
12	A/C HEAD
06	TERMINAL
05	3D DIGITAL/4M
03	MAIN

4.2 VIDEO/AUDIO AND AUDIO ERASE SCHEMATIC DIAGRAMS

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

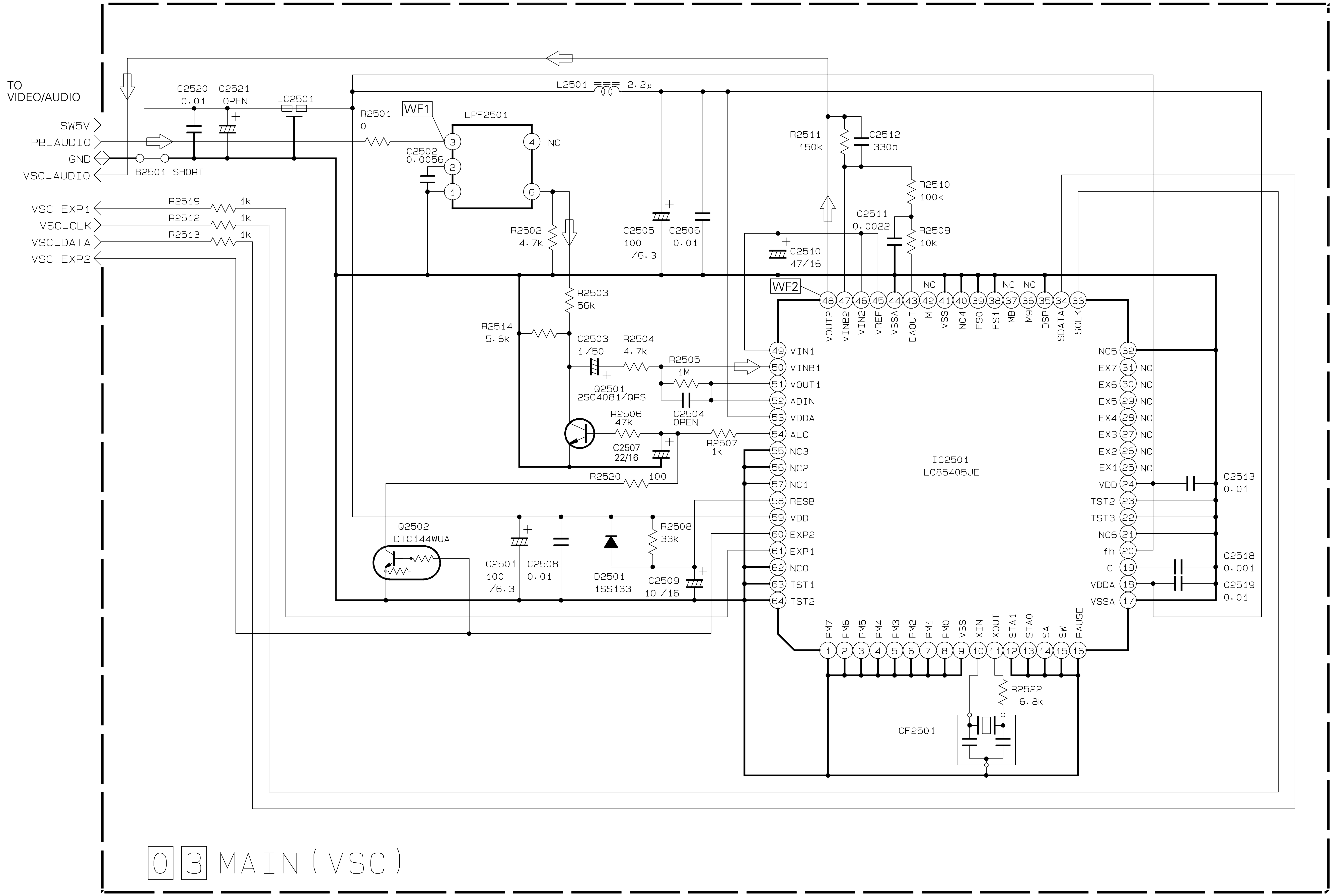


03 MAIN [VIDEO/AUDIO]
TO CONNECTION
LINE.OUT[L]
LINE.OUT[R]
DEC.OUT[L]
DEC.OUT[R]
BS.AUDIO[L]
BS.AUDIO[R]
A.IN1[L]
A.IN1[R]
A.IN2[L]
A.IN2[R]
F.AUDIO[L]
F.AUDIO[R]
GND
TO TUNER
TU.AUDIO
RF.AUDIO
DEMOD[L]
DEMOD[R]
GND
TO CONNECTION
2Fsc
V.TO.OSD
GND
TO SYSCON
A.FF
A.ENV/NO[L]
A.MUTE[H]
H.REC.ST[H]
PAL.PB[H]
TO SW.REG
GND
SW5V
SW12V
TO U.DRUM CN1
FLY.E
FMA.CH2
FMA.CH1
SP.CH2
SP.CH1
LP/EP.CH2
LP/EP.CH1
VP.CH1
VP.CH2
OPEN
IC3 TA1249F
TO A/C HEAD CN2001
P/R
A.E
CTL
TO SYSCON
CTL[+]
CTL[-]
GND
TO FULL ERASE HEAD CN2002
FE
TO SYSCON
EDS.CS/R-Y.REV/EXT
FULL.E.ON[L]
N.REC[L]
N.REC.ST[H]
AL5V
46 AUDIO ERASE
A.E
A.BIAS
GND
A/E.VCC
CN2052
CN2051
T2051
TO SECAM.CNR CN301
SECAM.DET
PB.FM
REC.COLOR
EE[L]
SECAM[H]
Fsc
OPEN
TO SECAM.CNR CN302
GND
C.SYNC/CNR.OUT
SW5V
V.TO.SECAM/CNR.CTL
PB.COLR/CNR.IN
TO SYSCON
ANT.CTL[H]/S-P[H]
BS.PCTL[H]/FORCE[L]
P/S.SECAM[H]
TO CONNECTION (P-S CONV./BS)
P/S.SECAM[H]
BS.PCTL[H]/FORCE[L]
ANT.CTL[H]/S-P[H]
NC
TO SHEELD
IC2
IC1 JCP8022-NSD
OUTPUT SEL
INPUT.SEL
HIFI FM
NA INPUT SEL
REC/PB MON
ENV DET
NOR DET
PRE/REC GND
PRE/REC VCC
PRE/REC AMP
D.FF
TO VSC
SW5V
PB.AUDIO
GND
VSC.AUDIO
VSC.EXP2
VSC.EXP1
VSC.CLK
VSC.DATA
TO SYSCON
VSC.DATA
VSC.CLK
IND[R]
IND[L]
LP.SHORT[H]
SP.SHORT[H]
D.FF
VIDEO.ENV
HEAD.SEL
FLY.ON[H]
FLY.REC[H]
I2C.DATA.A/V
I2C.CLK.A/V
3.58NTSC[H]
TRICK[H]/M.TRICK[L]
EDS.CS/R-Y.REV/EXT
SECAM.DET/KILLER.DET
V.PULSE
NORM/MESEC/S
C.SYNC/V.REF
SB.GAIN
SP[H]
EE[L]/S.PB[L]
EDS[H]/SECAM[H]
SLOW.P/CNR.CTL
ET.PB[H]/AGC.CTL
MESECAM[H]
TO SYSCON
VHS[H]
TO CONNECTION
FRONT.V.IN
REAR1.V.IN
BS.VIDEO
TUNER.VIDEO
INCV.TO.OSD.2
TO CONNECTION
MAIN.ALC.DET
V.TO.OSD.2
REC.COLOR
Fsc
SECAM.PB.COLOR
V.FROM.AV
V.TO.AV
C.SYNC/V.REF
V.TO.SUB
PB.COLOR
KILLER.DET
GND
V.PULSE.GS
1
2
3
4
5
A
B
C
D
E
F
G
H

NOTE : For VIDEO/AUDIO waveforms, please refer to page 4-31.

4.3 VSC SCHEMATIC DIAGRAM

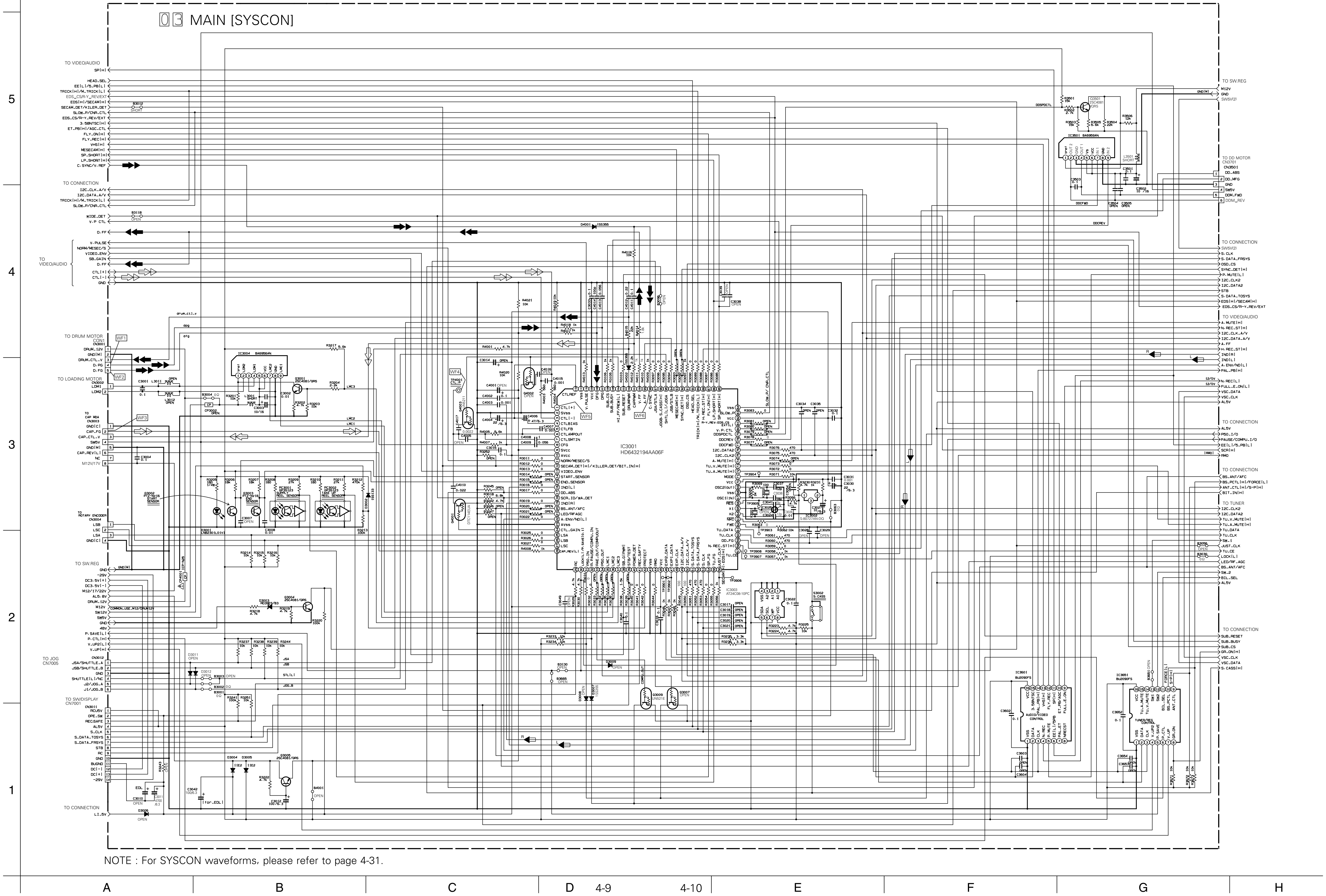
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


TO VIDEO/AUDIO
SW5V
PB_AUDIO
GND
VSC_AUDIO
VSC_EXP1
VSC_CLK
VSC_DATA
VSC_EXP2
B2501 SHORT
C2520 0.01
C2521 OPEN
LC2501
L2501 2.2μ
R2501 0
WF1
LPF2501
NC
C2502 0.0056
R2502 4.7k
R2503 56k
R2514 5.6k
R2519 1k
R2512 1k
R2513 1k
C2505 100 /6.3
C2506 0.01
C2503 1/50
R2504 4.7k
R2505 1M
Q2501 2SC4081/QRS
R2506 47k
C2504 OPEN
C2507 22/16
R2507 1k
R2520 100
Q2502 DTC144WUA
C2501 100 /6.3
C2508 0.01
D2501 1SS133
R2508 33k
C2509 10 /16
R2511 150k
C2512 330p
R2510 100k
C2511 0.0022
R2509 10k
C2510 47/16
WF2
VOUT2 VINB2 VIN2 VREF VSSA DAOUT M VSS NC4 FS0 FS1 MB M9 DSP SDATA SCLK
VIN1 VINB1 VOUT1 ADIN VDDA ALC NC3 NC2 NC1 RESB VDD EXP2 EXP1 NC0 TST1 TST2
NC5 EX7 EX6 EX5 EX4 EX3 EX2 EX1 VDD TST2 TST3 NC6 fh C VDDA VSSA
PM7 PM6 PM5 PM4 PM3 PM2 PM1 PM0 VSS XIN XOUT STA1 STA0 SA SW PAUSE
IC2501 LC85405JE
C2513 0.01
C2518 0.001
C2519 0.01
R2522 6.8k
CF2501
03 MAIN(VSC)

NOTE : For VSC waveforms, please refer to page 4-31.

4.4 SYSTEM CONTROL SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

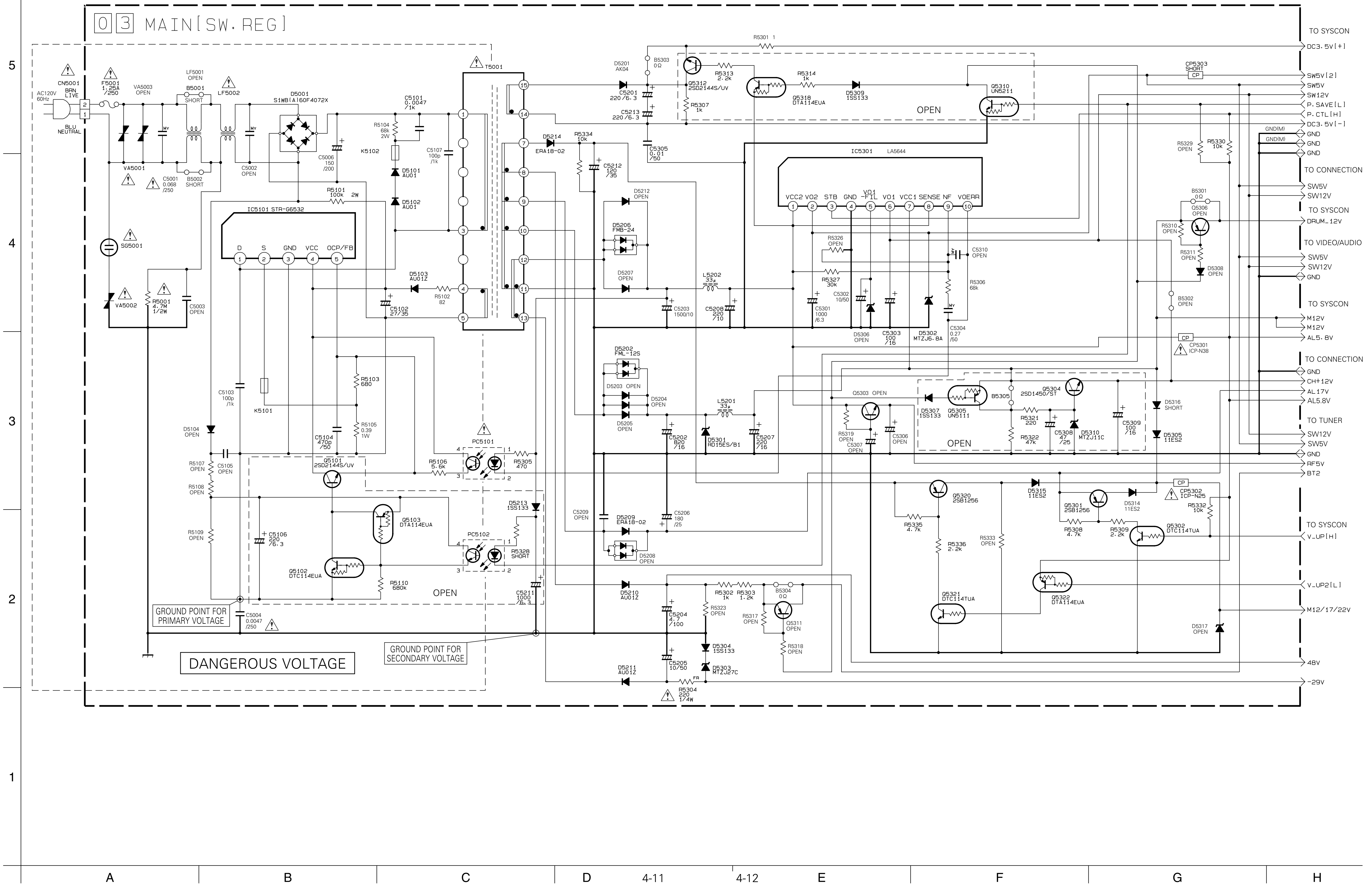


03 MAIN [SYSCON]
TO VIDEO/AUDIO
SP[H]
HEAD.SEL
EE[L]/S.PB[L]
TRICK[H]/M.TRICK[L]
EDS_CS/R-Y_REV/EXT
EDS[H]/SECAM[H]
SECAM.DET/KILLER.DET
SLOW.P/CNR.CTL
3.58NTSC[H]
ET.PB[H]/AGC.CTL
FLY.ON[H]
FLY.REC[H]
VHS[H]
MESECAM[H]
SP.SHORT[H]
LP.SHORT[H]
C.SYNC/V.REF
TO CONNECTION
I2C.CLK.A/V
I2C.DATA.A/V
WIDE.DET
V.P CTL
D.FF
V.PULSE
NORM/MESEC/S
VIDEO.ENV
SB.GAIN
CTL[+]
CTL[-]
GND
TO DRUM MOTOR
CN3001
DRUM.12V
DRUM.CTL.V
D.PG
D.FG
TO LOADING MOTOR
CN3002
LDM1
LDM2
TO CAP MDA
CN3003
CAP.FG
CAP.CTL.V
SW5V
CAP.REV[L]
NC
TO ROTARY ENCODER
CN3004
LSB
LSC
LSA
TO SW.REG
-29V
DC3.5V[+]
DC3.5V[-]
M12/17/22V
AL5.8V
DRUM.12V
M12V
SW12V
48V
P.SAVE[L]
P.CTL[H]
V.UP2[L]
V.UP[H]
TO JOG
CN7005
CN3012
JSA/SHUTTLE.A
JSB/SHUTTLE.B
SHUTTLE[L]/NC
J2/JOG.A
J1/JOG.B
TO SW/DISPLAY
CN7001
CN3011
RCU5V
OPE.SW
REC.SAFE
AL5V
S.CLK
S.DATA.TOSYS
S.DATA.FRSYS
STB
RC
BUGND
DC[-]
DC[+]
TO CONNECTION
LI.5V
IC3004 BA6956AN
IC3001
HD6432194AA06F
IC3003
AT24C08-10PC
IC3002
S-80727AN-DQ
IC3501 BA6959AN
IC3601
BU2090FS
AUDIO/VIDEO CONTROL
IC3651
BU2090FS
TUNER/REG CONTROL
Q3501 2SC4081
D4001 1SS355
TO SW.REG
M12V
SW5V(2)
TO DD MOTOR
CN3701
CN3501
DD.ABS
DD.MFG
SW5V
DDM.FWD
DDM_REV
TO CONNECTION
S.CLK
S.DATA.FRSYS
OSD.CS
SYNC.DET[H]
P.MUTE[L]
I2C.CLK2
I2C.DATA2
STB
S.DATA.TOSYS
EDS[H]/SECAM[H]
EDS.CS/R-Y.REV/EXT
TO VIDEO/AUDIO
A.MUTE[H]
N.REC.ST[H]
I2C.CLK.A/V
I2C.DATA.A/V
A.FF
H.REC.ST[H]
INDI[R]
INDI[L]
A.ENV/NDI[L]
PAL.PB[H]
N.REC[L]
FULL.E.ON[L]
VSC.DATA
VSC.CLK
AL5V
TO CONNECTION
AL5V
P50.I/O
PAUSE/COMPU.I/O
EE[L]/S.PB[L]
SCR[H]
RMO
TO CONNECTION
BS.ANT/AFC
BS.PCTL[H]/FORCE[L]
ANT.CTL[H]/S-P[H]
BIT.IN[H]
TO TUNER
I2C.CLK2
I2C.DATA2
TU.V.MUTE[H]
TU.A.MUTE[H]
TU.DATA
TU.CLK
SW.1
JUST.CLK
TU.CE
LOCK[L]
LED/RF.AGC
BS.ANT/AFC
SW.2
BIL.SEL
AL5V
TO CONNECTION
SUB.RESET
SUB.BUSY
SUB.CS
GR.ON[H]
VSC.CLK
VSC.DATA
S.CASS[H]
WF1
WF2
WF3
WF4
WF5
WF6
A
B
C
D
E
F
G
H
1
2
3
4
5

NOTE : For SYSCON waveforms, please refer to page 4-31.

4.5 SWITCHING REGULATOR SCHEMATIC DIAGRAM

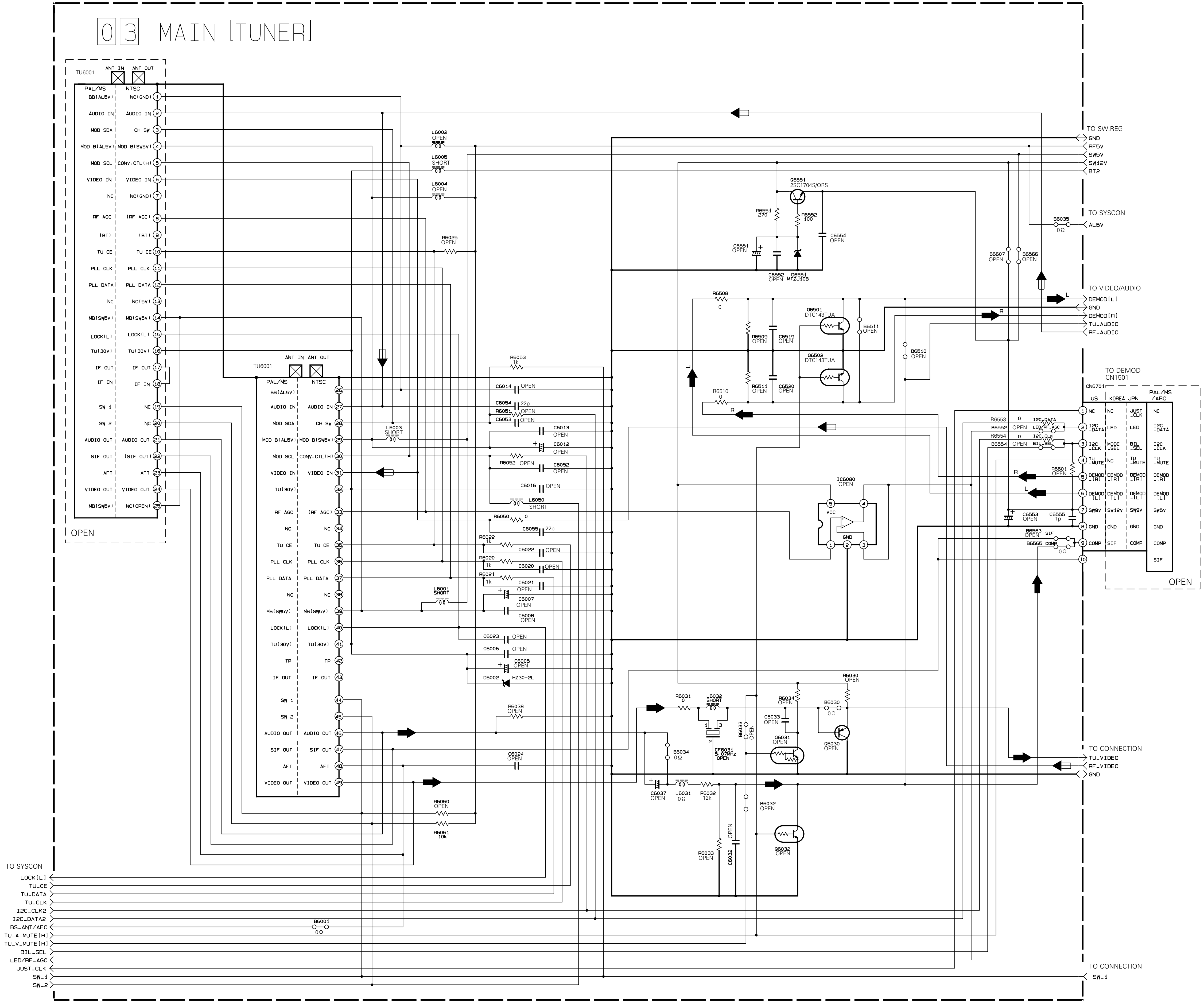
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



03 MAIN[SW.REG]
AC120V 60Hz
CN5001
BRN LIVE
BLU NEUTRAL
F5001 1.25A /250
VA5003 OPEN
LF5001 OPEN
B5001 SHORT
LF5002
D5001 S1WB(A)60F4072X
VA5001
C5001 0.068 /250
B5002 SHORT
C5002 OPEN
C5006 150 /200
R5104 68k 2W
C5101 0.0047 /1k
K5102
D5101 AU01
D5102 AU01
C5107 100p /1k
T5001
R5101 100k 2W
IC5101 STR-G6532
D S GND VCC OCP/FB
SG5001
VA5002
R5001 4.7M 1/2W
C5003 OPEN
D5103 AU01Z
R5102 82
C5102 27/35
C5103 100p /1k
K5101
R5103 680
R5105 0.39 1W
C5104 470p /50
D5104 OPEN
R5107 OPEN
C5105 OPEN
R5108 OPEN
R5109 OPEN
Q5101 2SD2144S/UV
R5106 5.6k
PC5101
R5305 470
Q5103 DTA114EUA
C5106 220 /6.3
Q5102 DTC114EUA
R5110 680k
OPEN
D5213 1SS133
PC5102
R5328 SHORT
C5211 1000 /6.3
GROUND POINT FOR PRIMARY VOLTAGE
C5004 0.0047 /250
GROUND POINT FOR SECONDARY VOLTAGE
DANGEROUS VOLTAGE
D5201 AK04
B5303 0Ω
C5201 220/6.3
C5213 220/6.3
C5305 0.01 /50
D5214 ERA18-02
R5334 10k
C5212 120 /35
D5212 OPEN
D5206 FMB-24
D5207 OPEN
C5203 1500/10
L5202 33µ
C5208 220 /10
D5202 FML-12S
D5203 OPEN
D5204 OPEN
D5205 OPEN
C5202 820 /16
L5201 33µ
D5301 RD15ES/B1
C5207 220 /16
C5209 OPEN
D5209 ERA18-02
C5206 180 /25
D5208 OPEN
D5210 AU01Z
C5204 4.7 /100
C5205 10/50
D5211 AU01Z
R5304 220 1/4W
R5301 1
Q5312 2SD2144S/UV
R5313 2.2k
R5307 1k
R5314 1k
Q5318 DTA114EUA
D5309 1SS133
Q5310 UN5211
OPEN
IC5301 LA5644
VCC2 VO2 STB GND VO1-FIL VO1 VCC1 SENSE NF VOERR
R5326 OPEN
R5327 30k
C5301 1000 /6.3
C5302 10/50
D5306 OPEN
C5303 100 /16
D5302 MTZJ6.8A
C5304 0.27 /50
C5310 OPEN
R5306 68k
Q5303 OPEN
D5307 1SS133
Q5305 UN5111
B5305
Q5304 2SD1450/ST
R5321 220
R5322 47k
C5308 47 /25
D5310 MTZJ11C
C5309 100 /16
R5319 OPEN
C5307 OPEN
C5306 OPEN
R5302 1k
R5303 1.2k
B5304 0Ω
R5323 OPEN
R5317 OPEN
Q5311 OPEN
R5318 OPEN
D5304 1SS133
D5303 MTZJ27C
Q5320 2SB1256
R5335 4.7k
R5336 2.2k
Q5321 DTC114TUA
R5333 OPEN
D5315 11ES2
Q5301 2SB1256
D5314 11ES2
R5308 4.7k
R5309 2.2k
Q5302 DTC114TUA
Q5322 DTA114EUA
CP5302 ICP-N25
R5332 10k
D5317 OPEN
CP5303 SHORT
R5329 OPEN
R5330 10k
B5301 0Ω
Q5306 OPEN
R5310 OPEN
R5311 OPEN
D5308 OPEN
B5302 OPEN
CP5301 ICP-N38
D5316 SHORT
D5305 11ES2
GND(M)
TO SYSCON
DC3.5V[+]
SW5V[2]
SW5V
SW12V
P.SAVE[L]
P.CTL[H]
DC3.5V[-]
GND
GND
GND
TO CONNECTION
SW5V
SW12V
TO SYSCON
DRUM_12V
TO VIDEO/AUDIO
SW5V
SW12V
GND
TO SYSCON
M12V
M12V
AL5.8V
TO CONNECTION
GND
CH+12V
AL17V
AL5.8V
TO TUNER
SW12V
SW5V
GND
RF5V
BT2
TO SYSCON
V_UP[H]
V_UP2[L]
M12/17/22V
48V
-29V
1 2 3 4 5
A B C D E F G H

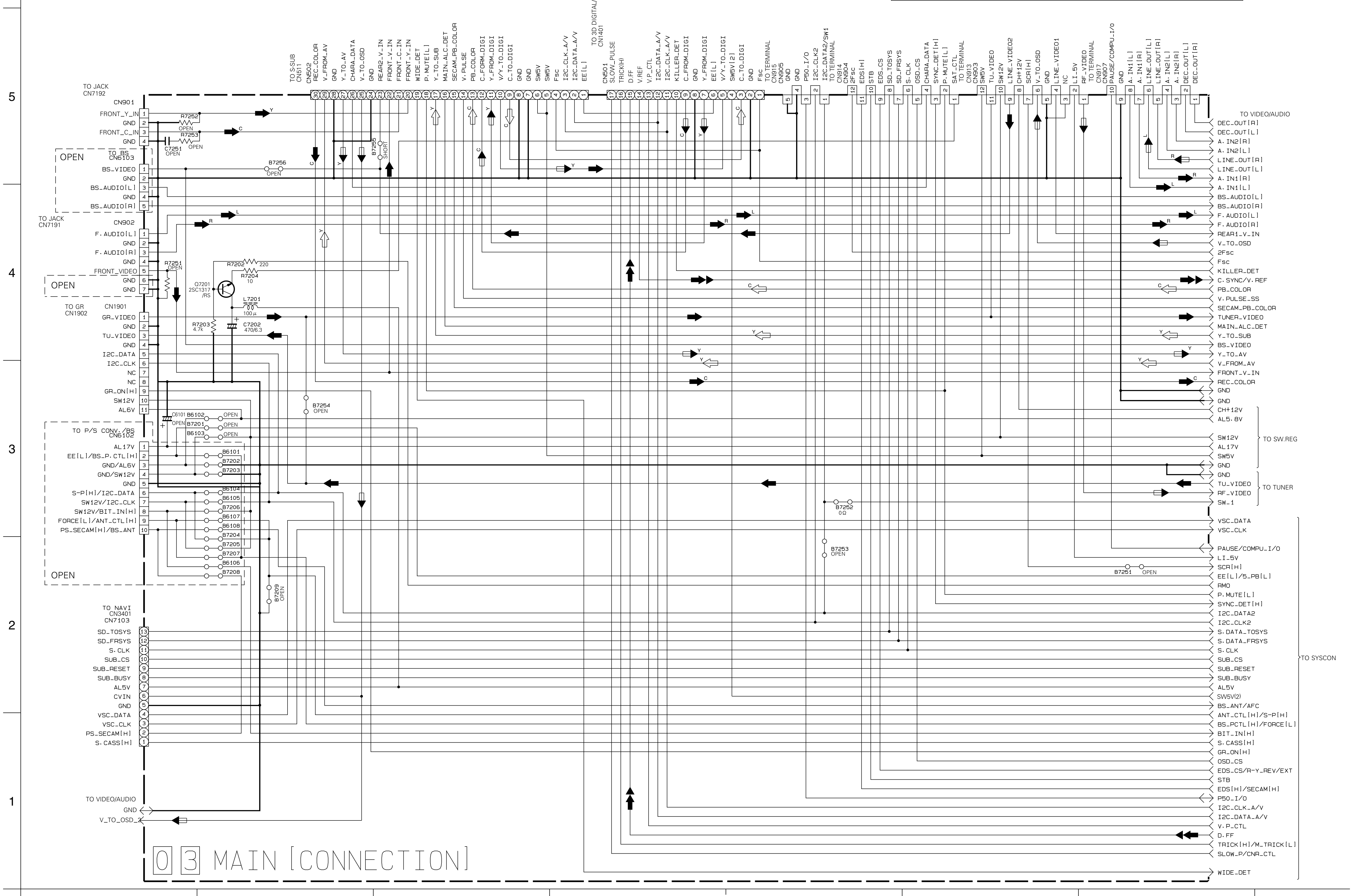
4.6 TUNER SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN [TUNER]
TU6001
ANT IN
ANT OUT
PAL/MS
NTSC
OPEN
TO SW.REG
GND
RF5V
SW5V
SW12V
BT2
TO SYSCON
AL5V
TO VIDEO/AUDIO
DEMOD[L]
GND
DEMOD[R]
TU_AUDIO
RF_AUDIO
TO DEMOD
CN1501
CN6701
US
KOREA
JPN
PAL/MS /ARC
TO CONNECTION
TU_VIDEO
RF_VIDEO
GND
TO CONNECTION
SW_1
TO SYSCON
LOCK[L]
TU_CE
TU_DATA
TU_CLK
I2C_CLK2
I2C_DATA2
BS_ANT/AFC
TU_A_MUTE[H]
TU_V_MUTE[H]
BIL_SEL
LED/RF_AGC
JUST_CLK
SW_1
SW_2
Q6551
2SC1704S/QRS
D6551
MTZJ10B
Q6501
DTC143TUA
Q6502
DTC143TUA
IC6080
OPEN
Q6030
Q6031
Q6032
CF6031
5.07MHZ
OPEN
D6002
HZ30-2L
L6002
L6005
SHORT
L6004
L6003
L6001
L6050
L6031
L6032
B6001
B6030
B6034
B6035
R6025
R6053
R6050
R6060
R6061
10k
R6030
R6031
R6032
12k
R6033
R6038
R6551
270
R6552
100

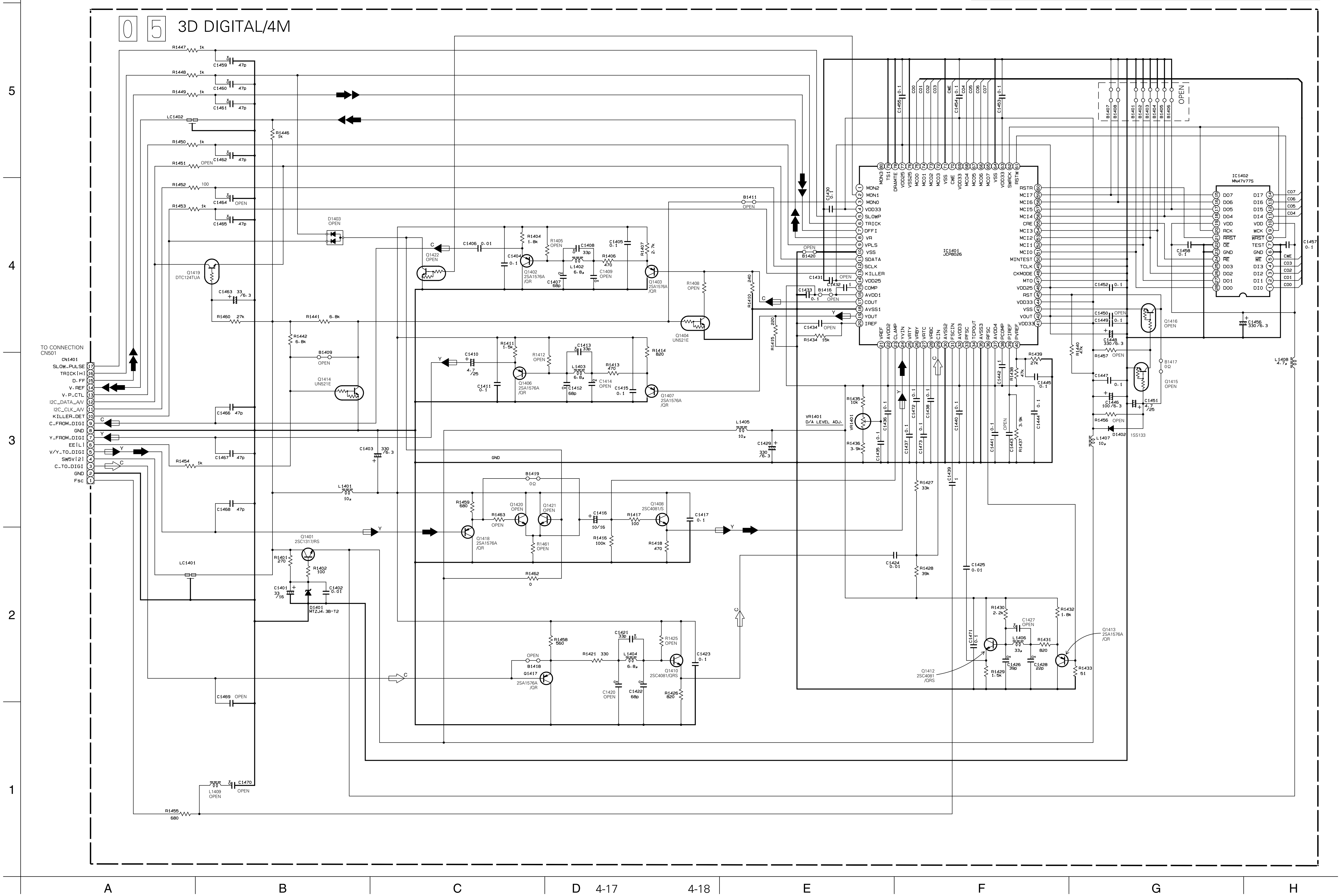
4.7 CONNECTION SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


03 MAIN [CONNECTION]
TO JACK CN7192
CN901
FRONT_Y_IN
GND
FRONT_C_IN
GND
R7252 OPEN
R7253 OPEN
C7251 OPEN
OPEN
TO BS CN6103
BS_VIDEO
GND
BS_AUDIO[L]
GND
BS_AUDIO[R]
TO JACK CN7191
CN902
F.AUDIO[L]
GND
F.AUDIO[R]
GND
FRONT_VIDEO
GND
GND
R7251 OPEN
Q7201 2SC1317 /RS
R7202 220
R7204 10
L7201 100µ
R7203 4.7k
C7202 470/6.3
TO GR CN1902
CN1901
GR_VIDEO
GND
TU_VIDEO
GND
I2C_DATA
I2C_CLK
NC
NC
GR_ON[H]
SW12V
AL6V
C6101 OPEN
B6102 OPEN
B7201 OPEN
B6103 OPEN
TO P/S CONV./BS CN6102
AL17V
EE[L]/BS_P.CTL[H]
GND/AL6V
GND/SW12V
GND
S-P[H]/I2C_DATA
SW12V/I2C_CLK
SW12V/BIT_IN[H]
FORCE[L]/ANT_CTL[H]
PS_SECAM[H]/BS_ANT
B6101
B7202
B7203
B6104
B6105
B7206
B6107
B6108
B7204
B7205
B7207
B6106
B7208
B7209 OPEN
B7254 OPEN
B7255 SHORT
B7256 OPEN
TO NAVI CN3401 CN7103
SD_TOSYS
SD_FRSYS
S.CLK
SUB_CS
SUB_RESET
SUB_BUSY
AL5V
CVIN
GND
VSC_DATA
VSC_CLK
PS_SECAM[H]
S.CASS[H]
TO VIDEO/AUDIO
GND
V_TO_OSD
TO S.SUB CN611
CN502
REC_COLOR
V_FROM_AV
GND
Y_TO_AV
CHARA_DATA
V_TO_OSD
GND
REAR2_V_IN
FRONT_V_IN
FRONT_C_IN
FRONT_Y_IN
WIDE_DET
P.MUTE[L]
Y_TO_SUB
MAIN_ALC_DET
SECAM_PB_COLOR
V.PULSE
PB_COLOR
C_FORM_DIGI
Y_FROM_DIGI
V/Y_TO_DIGI
C_TO_DIGI
GND
GND
SW5V
SW5V
Fsc
I2C_CLK_A/V
I2C_DATA_A/V
EE[L]
TO 3D DIGITAL/4M CN1401
CN501
SLOW_PULSE
TRICK(H)
D.FF
V.REF
V.P_CTL
I2C_DATA_A/V
I2C_CLK_A/V
KILLER_DET
C_FROM_DIGI
GND
Y_FROM_DIGI
EE[L]
V/Y_TO_DIGI
SW5V[2]
C_TO_DIGI
GND
Fsc
TO TERMINAL CN916 CN905
GND
GND
P50_I/O
I2C_CLK2
I2C_DATA2/SW1
TO TERMINAL CN914 CN904
2Fsc
EDS[H]
STB
EDS_CS
SD_TOSYS
SD_FRSYS
S.CLK
OSD_CS
CHARA_DATA
SYNC_DET[H]
P.MUTE[L]
SW_CTL
TO TERMINAL CN913 CN903
SW5V
TU_VIDEO
SW12V
LINE_VIDEO2
CH+12V
SCR[H]
V_TO_OSD
GND
LINE_VIDEO1
NC
LI_5V
RF_VIDEO
TO TERMINAL CN917 CN907
PAUSE/COMPU_I/O
GND
A.IN1[L]
A.IN1[R]
LINE_OUT[L]
LINE_OUT[R]
A.IN2[L]
A.IN2[R]
DEC_OUT[L]
DEC_OUT[R]
TO VIDEO/AUDIO
DEC_OUT[R]
DEC_OUT[L]
A.IN2[R]
A.IN2[L]
LINE_OUT[R]
LINE_OUT[L]
A.IN1[R]
A.IN1[L]
BS_AUDIO[L]
BS_AUDIO[R]
F.AUDIO[L]
F.AUDIO[R]
REAR1_V_IN
V_TO_OSD
2Fsc
Fsc
KILLER_DET
C.SYNC/V.REF
PB_COLOR
V.PULSE_SS
SECAM_PB_COLOR
TUNER_VIDEO
MAIN_ALC_DET
Y_TO_SUB
BS_VIDEO
Y_TO_AV
V_FROM_AV
FRONT_V_IN
REC_COLOR
GND
GND
CH+12V
AL5.8V
SW12V
AL17V
SW5V
GND
TO SW.REG
GND
TU_VIDEO
RF_VIDEO
SW_1
TO TUNER
B7252 0Ω
B7253 OPEN
B7251 OPEN
VSC_DATA
VSC_CLK
PAUSE/COMPU_I/O
LI_5V
SCR[H]
EE[L]/5_PB[L]
RMO
P.MUTE[L]
SYNC_DET[H]
I2C_DATA2
I2C_CLK2
S.DATA_TOSYS
S.DATA_FRSYS
S.CLK
SUB_CS
SUB_RESET
SUB_BUSY
AL5V
SW5V(2)
BS_ANT/AFC
ANT_CTL[H]/S-P[H]
BS_PCTL[H]/FORCE[L]
BIT_IN[H]
S.CASS[H]
GR_ON[H]
OSD_CS
EDS_CS/R-Y_REV/EXT
STB
EDS[H]/SECAM[H]
P50_I/O
I2C_CLK_A/V
I2C_DATA_A/V
V.P_CTL
D.FF
TRICK[H]/M_TRICK[L]
SLOW_P/CNR_CTL
WIDE_DET
TO SYSCON
Y
C
L
R
1
2
3
4
5
A
B
C
D
E
F
G
H

4.8 3D DIGITAL/4M SCHEMATIC DIAGRAM

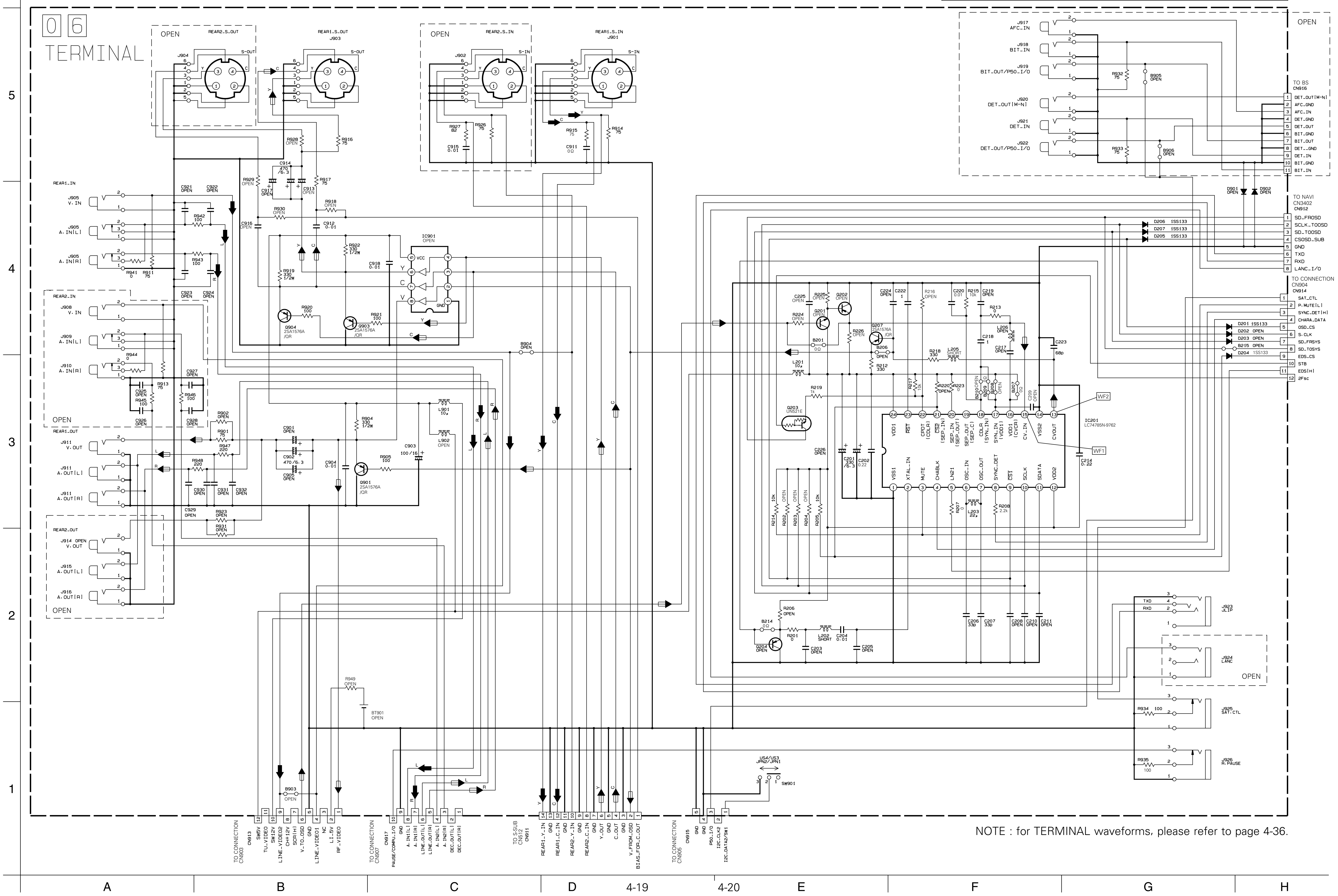
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



0 5 3D DIGITAL/4M
TO CONNECTION CN501
CN1401
SLOW_PULSE 17
TRICK[H] 16
D.FF 15
V.REF 14
V.P_CTL 13
I2C_DATA_A/V 12
I2C_CLK_A/V 11
KILLER_DET 10
C_FROM_DIGI 9
GND 8
Y_FROM_DIGI 7
EE[L] 6
V/Y_TO_DIGI 5
SW5V[2] 4
C_TO_DIGI 3
GND 2
Fsc 1
R1447 1k
C1459 47p
R1448 1k
C1460 47p
R1449 1k
C1461 47p
LC1402
R1446 1k
R1450 1k
C1462 47p
R1451 OPEN
R1452 100
C1464 OPEN
R1453 1k
C1465 47p
D1403 OPEN
Q1419 DTC124TUA
C1463 33/6.3
R1460 27k
R1441 6.8k
R1442 6.8k
B1409 OPEN
Q1414 UN521E
C1466 47p
C1467 47p
R1454 1k
C1403 330/6.3
L1401 10µ
C1468 47p
LC1401
Q1401 2SC1317/RS
R1401 270
R1402 100
C1401 33/16
C1402 0.01
D1401 MTZJ4.3B-T2
C1469 OPEN
C1470 OPEN
L1409 OPEN
R1455 680
Q1422 OPEN
C1406 0.01
Q1402 2SA1576A /QR
C1404 0.1
R1404 1.8k
R1405 OPEN
C1408 33p
L1402 6.8µ
R1406 470
C1409 OPEN
C1407 68p
C1405 0.1
R1407 2.7k
Q1403 2SA1576A /QR
R1408 OPEN
Q1404 UN521E
R1410 240
C1410 4.7/25
C1411 0.1
R1411 1.5k
Q1406 2SA1576A /QR
R1412 OPEN
C1413 33p
L1403 6.8µ
C1412 68p
R1413 470
C1414 OPEN
C1415 0.1
R1414 820
Q1407 2SA1576A /QR
GND
B1419 0Ω
R1459 680
R1463 OPEN
Q1420 OPEN
Q1421 OPEN
Q1418 2SA1576A /QR
R1461 OPEN
R1462 0
C1416 10/16
R1416 100k
R1417 100
Q1408 2SC4081/S
R1418 470
C1417 0.1
R1458 560
OPEN B1418
Q1417 2SA1576A /QR
R1421 330
C1421 33p
L1404 6.8µ
C1420 OPEN
C1422 68p
R1425 OPEN
Q1410 2SC4081/QRS
R1426 820
C1423 0.1
B1411 OPEN
C1430 0.1
OPEN B1420
C1431
C1432 OPEN
B1416 OPEN
C1433 0.1
C1434 OPEN
R1434 15k
R1415 220
L1405 10µ
C1429 330/6.3
IC1401 JCP8026
MON2 MON1 MON0 VDD33 SLOWP TRICK DFFI VR VPLS VSS SDATA SCLK KILLER VDD25 AVDD1 COMP COUT AVSS1 YOUT IREF
RSTR MCI7 MCI6 MCI5 MCI4 CRE MCI3 MCI2 MCI1 MCI0 MINTEST TCLK CKMODE MTO VDD25 RST VDD33 VSS VOUT VDD33
MON3 TS1 DRAMTE VDD25 VSS25 MCO0 MCO1 MCO2 MCO3 VSS CWE VDD33 MCO4 MCO5 MCO6 MCO7 VSS VDD33 SWRCK RSTW
VREF AVDD2 CLAMP YVIN VRTY VRBY VRTC VRBC CIN AVSS2 FSCIN PFSC AVDD3 TCPOUT AVSS3 RFSC AVDD4 PCOMP PIREF PVREF
C1495 0.1
C1454 0.1
C1453 0.1
CO0 CO1 CO2 CO3 CWE CO4 CO5 CO6 CO7
B1407 B1408 B1401 B1402 B1403 B1404 B1405 B1406 OPEN
IC1402 MN47V77S
DO7 DO6 DO5 DO4 VDD RCK RRST OE GND RE DO3 DO2 DO1 DO0
DI7 DI6 DI5 DI4 VDD WCK WRST TEST GND WE DI3 DI2 DI1 DI0
C1457 0.1
C1458 0.1
C1452 0.1
C1450 OPEN
C1449 0.1
C1448 330/6.3
C1456 330/6.3
Q1416 OPEN
B1417 0Ω
Q1415 OPEN
L1408 4.7µ
R1440 47k
R1457 OPEN
C1447 0.1
C1446 100/6.3
C1451 4.7/25
R1456 OPEN
D1402 1SS133
L1407 10µ
R1439 27k
C1445 0.1
R1438 47k
C1442 1
C1444 0.1
C1441 0.1
C1443 OPEN
R1437 3.9k
C1440 0.1
C1439 1
C1438 0.1
C1473 0.1
C1472 0.1
C1437 0.1
C1436 0.1
C1435 0.1
VR1401 D/A LEVEL ADJ.
R1435 10k
R1436 3.9k
R1427 33k
R1428 39k
C1424 0.01
C1425 0.01
R1430 2.2k
C1427 OPEN
L1406 33µ
R1431 820
R1432 1.8k
C1471 0.1
Q1412 2SC4081 /QRS
R1429 1.5k
C1426 39p
C1428 22p
Q1413 2SA1576A /QR
R1433 51
Y C
5 4 3 2 1
A B C D E F G H

4.9 TERMINAL SCHEMATIC DIAGRAM

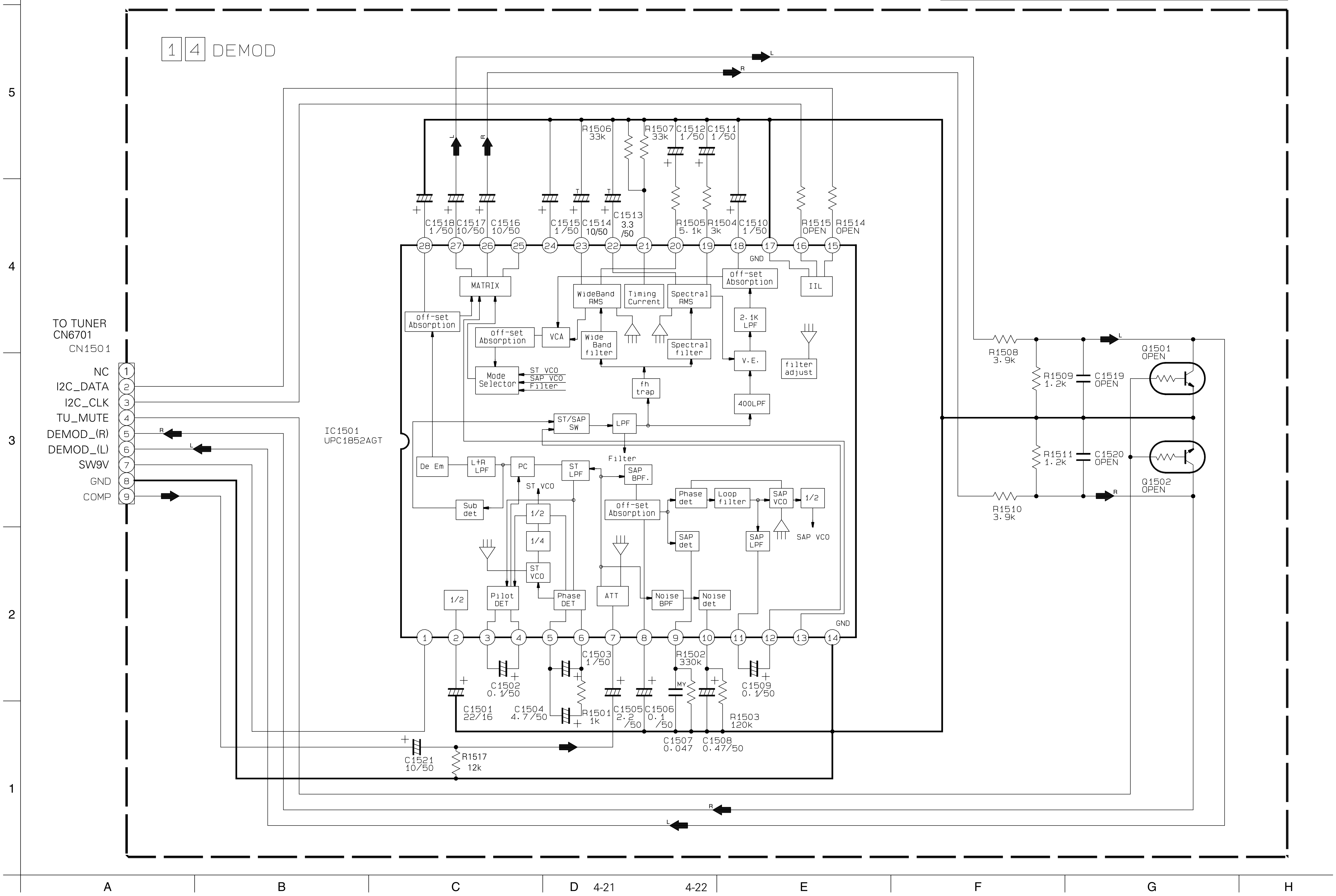
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


06
TERMINAL
OPEN
REAR2_S_OUT
REAR1_S_OUT J903
REAR2_S_IN
REAR1_S_IN J901
IC901 OPEN
IC201 LC74785N-9762
WF1
WF2
REAR1_IN
REAR2_IN
REAR1_OUT
REAR2_OUT
J905 V_IN
J905 A_IN(L)
J905 A_IN(R)
J908 V_IN
J909 A_IN(L)
J910 A_IN(R)
J911 V_OUT
J911 A_OUT(L)
J911 A_OUT(R)
J914 OPEN V_OUT
J915 A_OUT(L)
J916 A_OUT(R)
J917 AFC_IN
J918 BIT_IN
J919 BIT_OUT/P50_I/O
J920 DET_OUT(M-N)
J921 DET_IN
J922 DET_OUT/P50_I/O
TO BS CN916
1 DET_OUT(M-N)
2 AFC_GND
3 AFC_IN
4 DET_GND
5 DET_OUT
6 BIT_GND
7 BIT_OUT
8 DET__GND
9 DET_IN
10 BIT_GND
11 BIT_IN
TO NAVI CN3402 CN912
1 SD_FROSD
2 SCLK_TOOSD
3 SD_TOOSD
4 CSOSD_SUB
5 GND
6 TXD
7 RXD
8 LANC_I/O
TO CONNECTION CN904 CN914
1 SAT_CTL
2 P.MUTE(L)
3 SYNC_DET(H)
4 CHARA_DATA
5 OSD_CS
6 S_CLK
7 SD_FRSYS
8 SD_TOSYS
9 EDS_CS
10 STB
11 EDS(H)
12 2Fsc
J923 JLIP
J924 LANC
J925 SAT.CTL
J926 R.PAUSE
US4/US3 JPN2/JPN1
SW901
TO CONNECTION CN903 CN913
12 SW5V
11 TU_VIDEO
10 SW12V
9 LINE_VIDEO2
8 CH12V
7 SCRT(H)
6 V_TO_OSD
5 GND
4 LINE_VIDEO1
3 NC
2 LI_5V
1 RF_VIDEO
TO CONNECTION CN907 CN917
10 PAUSE/COMPU_I/O
9 GND
8 A_IN(L)
7 A_IN(R)
6 LINE_OUT(L)
5 LINE_OUT(R)
4 A_IN2(L)
3 A_IN2(R)
2 DEC_OUT(L)
1 DEC_OUT(R)
TO S-SUB CN512 CN911
14 REAR1_Y_IN
13 GND
12 REAR1_C_IN
11 GND
10 REAR2_Y_IN
9 GND
8 REAR2_C_IN
7 GND
6 Y_OUT
5 GND
4 C_OUT
3 GND
2 V_FROM_OSD
1 BIAS_FOR_C_OUT
TO CONNECTION CN905 CN915
5 GND
4 GND
3 P50_I/O
2 I2C_CLK2
1 I2C_DATA2/SW1
A B C D E F G H
1 2 3 4 5

NOTE : for TERMINAL waveforms, please refer to page 4-36.

4.10 DEMODULATOR SCHEMATIC DIAGRAM

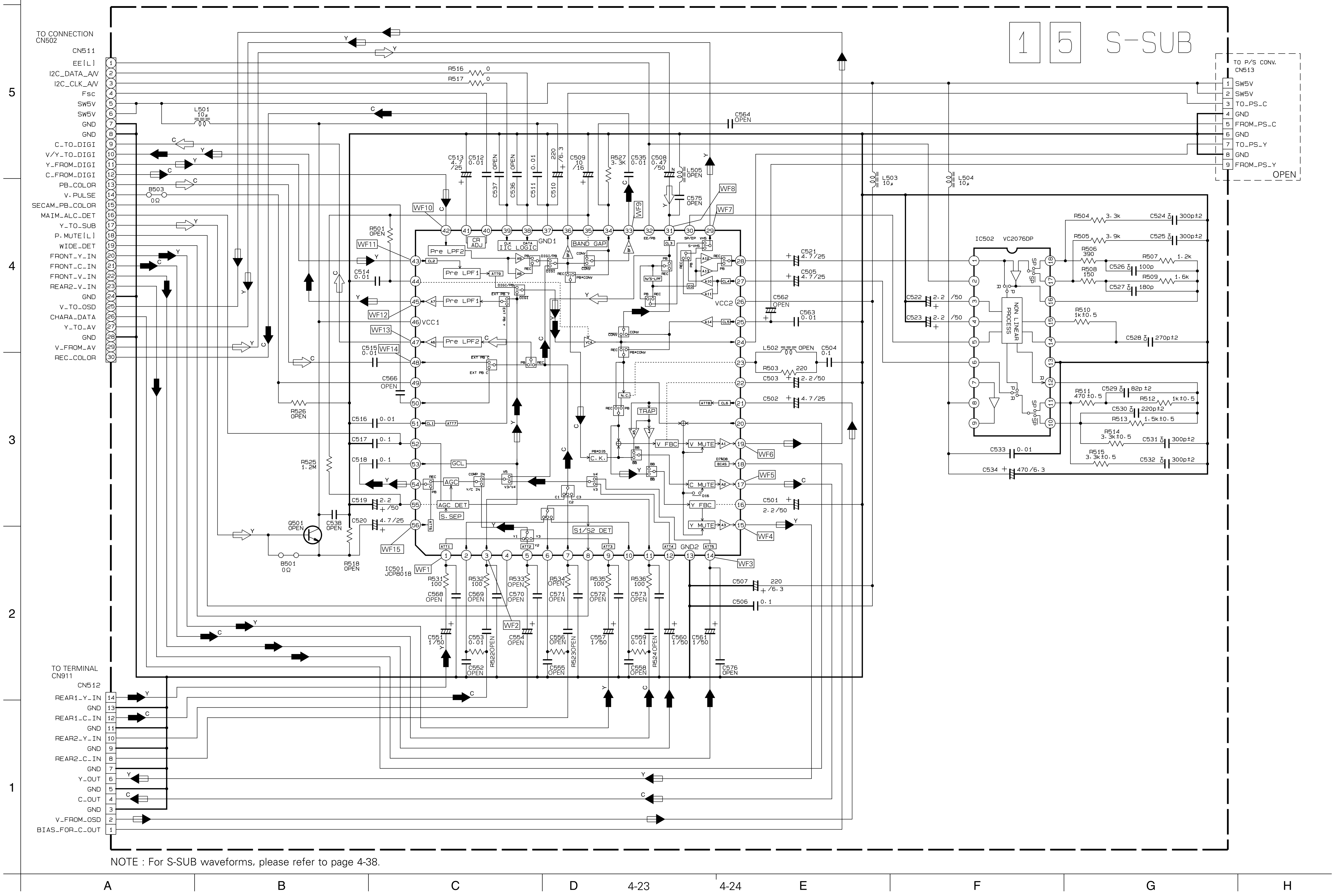
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



1 4 DEMOD
TO TUNER
CN6701
CN1501
NC
I2C_DATA
I2C_CLK
TU_MUTE
DEMOD_(R)
DEMOD_(L)
SW9V
GND
COMP
IC1501
UPC1852AGT
R1506 33k
R1507 33k
C1512 1/50
C1511 1/50
C1518 1/50
C1517 10/50
C1516 10/50
C1515 1/50
C1514 10/50
C1513 3.3 /50
R1505 5.1k
R1504 3k
C1510 1/50
R1515 OPEN
R1514 OPEN
GND
MATRIX
off-set Absorption
VCA
WideBand RMS
Timing Current
Spectral RMS
Wide Band filter
Spectral filter
2.1K LPF
V.E.
IIL
filter adjust
Mode Selector
ST VCO
SAP VCO
Filter
fh trap
400LPF
ST/SAP SW
LPF
De Em
L+R LPF
PC
ST LPF
SAP BPF.
Sub det
1/2
1/4
ST VCO
Phase det
Loop filter
SAP VCO
SAP det
SAP LPF
SAP VCO
Pilot DET
Phase DET
ATT
Noise BPF
Noise det
GND
C1503 1/50
R1502 330k
C1502 0.1/50
C1509 0.1/50
C1501 22/16
C1504 4.7/50
R1501 1k
C1505 2.2 /50
C1506 0.1 /50
MY
R1503 120k
C1507 0.047
C1508 0.47/50
C1521 10/50
R1517 12k
R1508 3.9k
R1509 1.2k
C1519 OPEN
Q1501 OPEN
R1511 1.2k
C1520 OPEN
Q1502 OPEN
R1510 3.9k
L
R
1
2
3
4
5
A
B
C
D
E
F
G
H

4.11 S-SUB SCHEMATIC DIAGRAM

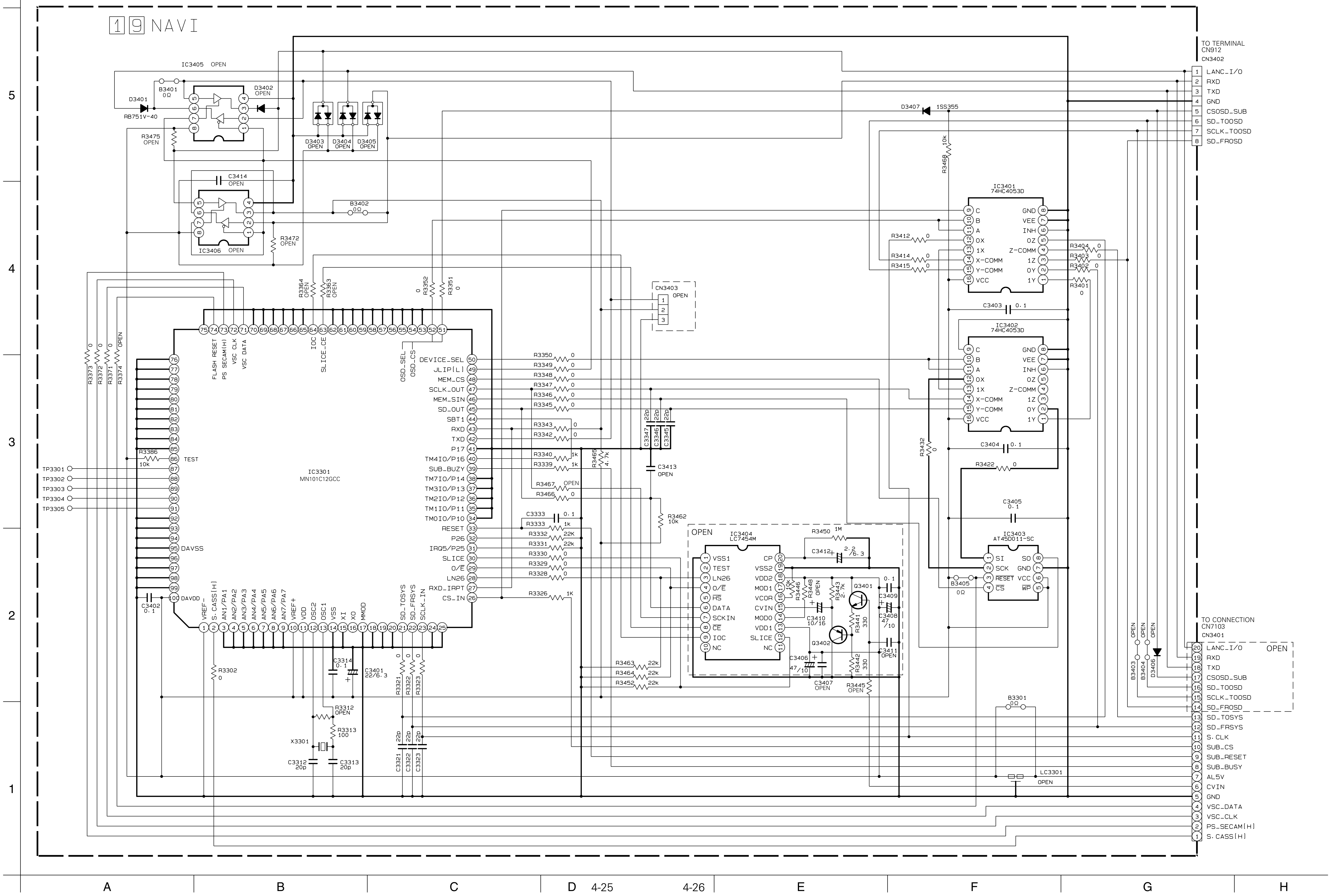
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.


15 S-SUB
TO CONNECTION CN502
CN511
1 EE[L]
2 I2C_DATA_A/V
3 I2C_CLK_A/V
4 Fsc
5 SW5V
6 SW5V
7 GND
8 GND
9 C_TO_DIGI
10 V/Y_TO_DIGI
11 Y_FROM_DIGI
12 C_FROM_DIGI
13 PB_COLOR
14 V.PULSE
15 SECAM_PB_COLOR
16 MAIM_ALC_DET
17 Y_TO_SUB
18 P.MUTE[L]
19 WIDE_DET
20 FRONT_Y_IN
21 FRONT_C_IN
22 FRONT_V_IN
23 REAR2_V_IN
24 GND
25 V_TO_OSD
26 CHARA_DATA
27 Y_TO_AV
28 GND
29 V_FROM_AV
30 REC_COLOR
TO TERMINAL CN911
CN512
14 REAR1_Y_IN
13 GND
12 REAR1_C_IN
11 GND
10 REAR2_Y_IN
9 GND
8 REAR2_C_IN
7 GND
6 Y_OUT
5 GND
4 C_OUT
3 GND
2 V_FROM_OSD
1 BIAS_FOR_C_OUT
TO P/S CONV. CN513
1 SW5V
2 SW5V
3 TO_PS_C
4 GND
5 FROM_PS_C
6 GND
7 TO_PS_Y
8 GND
9 FROM_PS_Y
OPEN
R516 0
R517 0
L501 10μ
B503 0Ω
C564 OPEN
C513 4.7/25
C512 0.01
C537 OPEN
C536 OPEN
C511 0.01
C510 220/6.3
C509 10/16
R527 3.3K
C535 0.01
C508 0.47/50
L505 OPEN
C575 OPEN
L503 10μ
L504 10μ
WF10 WF11 WF12 WF13 WF14 WF15 WF9 WF8 WF7 WF6 WF5 WF4 WF3 WF2 WF1
R501 OPEN
C514 0.01
C515 0.01
C566 OPEN
R526 OPEN
C516 0.01
C517 0.1
C518 0.1
R525 1.2M
C519 2.2/50
C520 4.7/25
C538 OPEN
Q501 OPEN
B501 0Ω
R518 OPEN
IC501 JCP8018
Pre LPF2
CR ADJ
IIC LOGIC
GND1
BAND GAP
Pre LPF1
VCC1
GCL
AGC
AGC DET
S.SEP
S1/S2 DET
TRAP
V FBC
V MUTE
C MUTE
Y FBC
Y MUTE
C.K.
VCC2
GND2
D7408 BIAS
EE/PB SP/EP VHS S-VHS N/S-LPF
ATT1 ATT2 ATT3 ATT4 ATT5 ATT6 ATT7 ATT8 ATT9
C521 4.7/25
C505 4.7/25
C562 OPEN
C563 0.01
L502 OPEN
C504 0.1
R503 220
C503 2.2/50
C502 4.7/25
C501 2.2/50
C507 220/6.3
C506 0.1
R531 100
R532 100
R533 OPEN
R534 OPEN
R535 100
R536 100
C568 OPEN
C569 OPEN
C570 OPEN
C571 OPEN
C572 OPEN
C573 OPEN
C551 1/50
C553 0.01
R522 OPEN
C552 OPEN
C554 OPEN
C556 OPEN
R523 OPEN
C555 OPEN
C557 1/50
C559 0.01
R524 OPEN
C558 OPEN
C560 1/50
C561 1/50
C576 OPEN
IC502 VC2076DP
NON LINEAR PROCESS
R504 3.3k
C524 300p±2
R505 3.9k
C525 300p±2
R506 390
R507 1.2k
C526 100p
R508 150
R509 1.6k
C527 180p
C522 2.2/50
C523 2.2/50
R510 1k±0.5
C528 270p±2
R511 470±0.5
C529 82p±2
R512 1k±0.5
C530 220p±2
R513 1.5k±0.5
R514 3.3k±0.5
C531 300p±2
R515 3.3k±0.5
C532 300p±2
C533 0.01
C534 470/6.3
1 2 3 4 5
A B C D E F G H

NOTE : For S-SUB waveforms, please refer to page 4-38.

4.12 NAVIGATION SCHEMATIC DIAGRAM

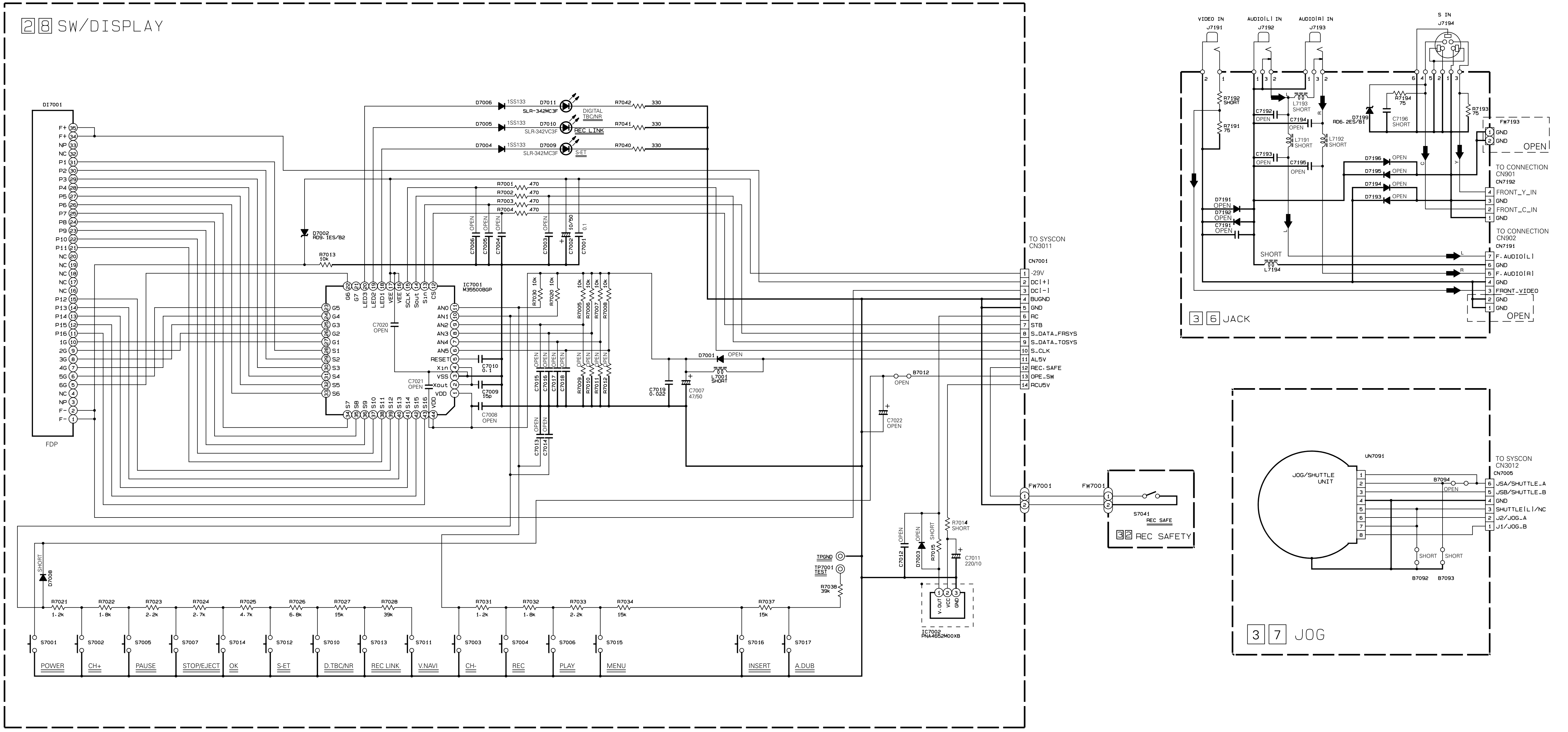
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



19 NAVI
IC3405 OPEN
IC3406 OPEN
D3401 RB751V-40
B3401 0Ω
D3402 OPEN
D3403 OPEN
D3404 OPEN
D3405 OPEN
R3475 OPEN
C3414 OPEN
B3402 0Ω
R3472 OPEN
R3364 OPEN
R3363 OPEN
R3352 0
R3351 0
R3373 0
R3372 0
R3371 0
R3374 OPEN
R3386 10k
TEST
TP3301
TP3302
TP3303
TP3304
TP3305
IC3301 MN101C12GCC
FLASH RESET
PS SECAM(H)
VSC CLK
VSC DATA
IOC
SLICE_CE
OSD_SEL
OSD_CS
DEVICE_SEL
JLIP(L)
MEM_CS
SCLK_OUT
MEM_SIN
SD_OUT
SBT1
RXD
TXD
P17
TM4IO/P16
SUB_BUZY
TM7IO/P14
TM3IO/P13
TM2IO/P12
TM1IO/P11
TM0IO/P10
RESET
P26
IRQ5/P25
SLICE
O/E
LN26
RXD_IRPT
CS_IN
DAVSS
DAVDD
C3402 0.1
VREF-
S.CASS(H)
AN1/PA1
AN2/PA2
AN3/PA3
AN4/PA4
AN5/PA5
AN6/PA6
AN7/PA7
VREF+
VDD
OSC2
OSC1
VSS
XI
XO
MMOD
SD_TOSYS
SD_FRSYS
SCLK_IN
R3302 0
C3314 0.1
C3401 22/6.3
R3312 OPEN
R3313 100
X3301
C3312 20p
C3313 20p
R3321 0
R3322 0
R3323 0
C3321 22p
C3322 22p
C3323 22p
R3350 0
R3349 0
R3348 0
R3347 0
R3346 0
R3345 0
R3343 0
R3342 0
R3340 1k
R3339 1k
R3467 OPEN
R3466 0
R3465 4.7k
C3333 0.1
R3333 1k
R3332 22K
R3331 22k
R3330 0
R3329 0
R3328 0
R3326 1K
CN3403 OPEN
C3347 22p
C3346 22p
C3345 22p
C3413 OPEN
R3462 10k
R3463 22k
R3464 22k
R3452 22k
OPEN
IC3404 LC7454M
VSS1
TEST
LN26
O/E
HS
DATA
SCKIN
CE
IOC
NC
CP
VSS2
VDD2
MOD1
VCOR
CVIN
MOD0
VDD1
SLICE
R3450 1M
C3412 2.2/6.3
R3446 10k
R3448 OPEN
R3443 2.7k
Q3401
Q3402
C3410 10/16
C3409 0.1
C3408 47/10
R3441 330
R3442 330
C3411 OPEN
C3406 47/10
C3407 OPEN
R3445 OPEN
D3407 1SS355
R3468 10k
IC3401 74HC4053D
IC3402 74HC4053D
C
B
A
0X
1X
X-COMM
Y-COMM
VCC
GND
VEE
INH
0Z
Z-COMM
1Z
0Y
1Y
R3412 0
R3414 0
R3415 0
R3404 0
R3403 0
R3402 0
R3401 0
C3403 0.1
C3404 0.1
R3432 0
R3422 0
C3405 0.1
IC3403 AT45D011-SC
SI
SCK
RESET
CS
SO
GND
VCC
WP
B3405 0Ω
B3301 0Ω
LC3301 OPEN
TO TERMINAL CN912
CN3402
1 LANC_I/O
2 RXD
3 TXD
4 GND
5 CSOSD_SUB
6 SD_TOOSD
7 SCLK_TOOSD
8 SD_FROSD
TO CONNECTION CN7103
CN3401
20 LANC_I/O
19 RXD
18 TXD
17 CSOSD_SUB
16 SD_TOOSD
15 SCLK_TOOSD
14 SD_FROSD
13 SD_TOSYS
12 SD_FRSYS
11 S.CLK
10 SUB_CS
9 SUB_RESET
8 SUB_BUSY
7 AL5V
6 CVIN
5 GND
4 VSC_DATA
3 VSC_CLK
2 PS_SECAM(H)
1 S.CASS(H)
OPEN
B3403 OPEN
B3404 OPEN
D3406 OPEN
1
2
3
4
5
A
B
C
D
E
F
G
H

4.13 SW/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS

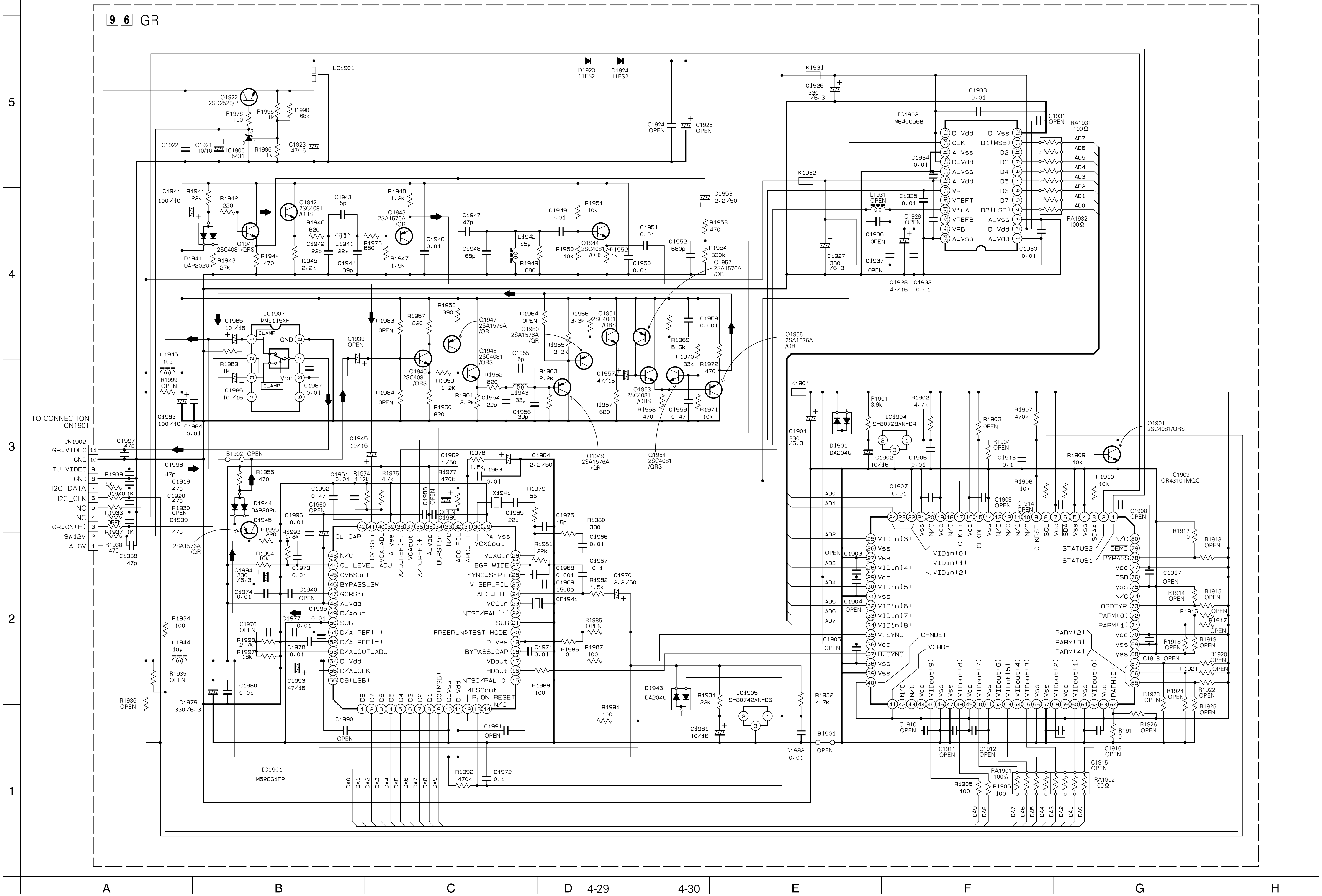
NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



28 SW/DISPLAY
DI7001
FDP
F+ F+ NP NC P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 NC NC NC NC NC P12 P13 P14 P15 P16 1G 2G 3G 4G 5G 6G NC NP F- F-
D7006 1SS133 D7011 SLR-342MC3F DIGITAL TBC/NR
D7005 1SS133 D7010 SLR-342VC3F REC LINK
D7004 1SS133 D7009 SLR-342MC3F S-ET
R7042 330
R7041 330
R7040 330
R7001 470
R7002 470
R7003 470
R7004 470
C7006 OPEN
C7005 OPEN
C7004
C7003 OPEN
C7002 10/50
C7001 0.1
D7002 RD9.1ES/B2
R7013 10k
IC7001 M35500BGP
G6 G7 LED3 LED2 LED1 VEE VEE SCLK Sout Sin CS
G5 G4 G3 G2 G1 S1 S2 S3 S4 S5 S6
S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 VDD
AN0 AN1 AN2 AN3 AN4 AN5 RESET Xin VSS Xout VDD
C7020 OPEN
C7021 OPEN
C7010 0.1
C7009 15p
C7008 OPEN
R7030 10k
R7020 10k
R7005 10k
R7006 10k
R7007 10k
R7008 10k
C7015 OPEN
C7016 OPEN
C7017 OPEN
C7018 OPEN
R7009 OPEN
R7010 OPEN
R7011 OPEN
R7012 OPEN
C7013 OPEN
C7014 OPEN
C7019 0.022
C7007 47/50
D7001 OPEN
L7001 SHORT
B7012 OPEN
C7022 OPEN
TO SYSCON CN3011
CN7001
1 -29V
2 DC(+)
3 DC(-)
4 BUGND
5 GND
6 RC
7 STB
8 S.DATA_FRSYS
9 S.DATA_TOSYS
10 S.CLK
11 AL5V
12 REC.SAFE
13 OPE_SW
14 RCU5V
FW7001
D7008 SHORT
R7021 1.2k
R7022 1.8k
R7023 2.2k
R7024 2.7k
R7025 4.7k
R7026 6.8k
R7027 15k
R7028 39k
R7031 1.2k
R7032 1.8k
R7033 2.2k
R7034 15k
R7037 15k
S7001 POWER
S7002 CH+
S7005 PAUSE
S7007 STOP/EJECT
S7014 OK
S7012 S-ET
S7010 D.TBC/NR
S7013 REC LINK
S7011 V.NAVI
S7003 CH-
S7004 REC
S7006 PLAY
S7015 MENU
S7016 INSERT
S7017 A.DUB
TPGND
TP7001 TEST
R7038 39k
C7012 OPEN
D7003 OPEN
R7015 SHORT
R7014 SHORT
C7011 220/10
IC7002 PNA4652M00XB
V-OUT VCC GND
FW7001
S7041 REC SAFE
32 REC SAFETY
VIDEO IN J7191
AUDIO(L) IN J7192
AUDIO(R) IN J7193
S IN J7194
R7192 SHORT
R7191 75
C7192 OPEN
L7193 SHORT
C7194 OPEN
L7191 SHORT
L7192 SHORT
C7193 OPEN
C7195 OPEN
RD6.2ES/B1 D7199
R7194 75
C7196 SHORT
R7193 75
FW7193 GND GND OPEN
TO CONNECTION CN901 CN7192
4 FRONT_Y_IN
3 GND
2 FRONT_C_IN
1 GND
D7196 OPEN
D7195 OPEN
D7194 OPEN
D7193 OPEN
D7191 OPEN
D7192 OPEN
C7191 OPEN
SHORT L7194
TO CONNECTION CN902 CN7191
7 F.AUDIO(L)
6 GND
5 F.AUDIO(R)
4 GND
3 FRONT_VIDEO
2 GND
1 GND
OPEN
36 JACK
UN7091
JOG/SHUTTLE UNIT
B7094 OPEN
TO SYSCON CN3012 CN7005
6 JSA/SHUTTLE_A
5 JSB/SHUTTLE_B
4 GND
3 SHUTTLE(L)/NC
2 J2/JOG_A
1 J1/JOG_B
SHORT SHORT
B7092 B7093
37 JOG

4.14 GR SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

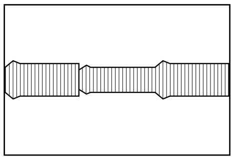


96 GR
TO CONNECTION CN1901
CN1902
GR_VIDEO 11
GND 10
TU_VIDEO 9
GND 8
I2C_DATA 7
I2C_CLK 6
NC 5
NC 4
GR_ON(H) 3
SW12V 2
AL6V 1
Q1922 2SD2528/P
R1976 100
R1995 1k
R1990 68k
C1922 1
C1921 10/16
IC1906 L5431
R1996 1k
C1923 47/16
LC1901
D1923 11ES2
D1924 11ES2
C1924 OPEN
C1925 OPEN
K1931
C1926 330 /6.3
C1933 0.01
IC1902 MB40C568
C1931 OPEN
RA1931 100Ω
RA1932 100Ω
D_Vdd CLK A_Vss D_Vdd A_Vss A_Vdd VRT VREFT VinA VREFB VRB A_Vss
D_Vss D1(MSB) D2 D3 D4 D5 D6 D7 D8(LSB) A_Vss D_Vdd A_Vdd
AD7 AD6 AD5 AD4 AD3 AD2 AD1 AD0
C1934 0.01
K1932
L1931 OPEN
C1935 0.01
C1929 OPEN
C1936 OPEN
C1937 OPEN
C1927 330 /6.3
C1928 47/16
C1932 0.01
C1930 0.01
C1941 100/10
R1941 22k
R1942 220
Q1941 2SC4081/QRS
Q1942 2SC4081 /QRS
D1941 DAP202U
R1943 27k
R1944 470
C1943 5p
R1946 820
C1942 22p
L1941 22μ
C1944 39p
R1945 2.2k
R1973 680
R1948 1.2k
Q1943 2SA1576A /QR
R1947 1.5k
C1946 0.01
C1947 47p
C1948 68p
L1942 15μ
R1949 680
C1949 0.01
R1951 10k
R1950 10k
Q1944 2SC4081 /QRS
R1952 1k
C1951 0.01
C1950 0.01
C1952 680p
C1953 2.2/50
R1953 470
R1954 330k
Q1952 2SA1576A /QR
IC1907 MM1115XF
CLAMP GND Vcc
C1985 10 /16
R1989 1M
C1986 10 /16
C1987 0.01
L1945 10μ
R1999 OPEN
C1983 100/10
C1984 0.01
C1939 OPEN
R1983 OPEN
R1984 OPEN
R1957 820
R1958 390
Q1947 2SA1576A /QR
Q1946 2SC4081 /QRS
Q1948 2SC4081 /QRS
R1959 1.2K
R1960 820
R1962 820
R1961 2.2k
C1954 22p
C1955 5p
L1943 33μ
C1956 39p
R1963 2.2k
R1964 OPEN
Q1950 2SA1576A /QR
R1965 3.3K
R1966 3.3k
Q1951 2SC4081 /QRS
C1957 47/16
R1967 680
Q1953 2SC4081 /QRS
R1968 470
Q1954 2SC4081 /QRS
C1959 0.47
R1969 5.6k
R1970 33k
C1958 0.001
R1972 470
R1971 10k
Q1955 2SA1576A /QR
Q1949 2SA1576A /QR
C1997 47p
C1998 47p
C1919 47p
C1920 47p
R1930 OPEN
C1999 47p
R1939 1K
R1940 1K
R1933 OPEN
R1937 1K
R1938 470
C1938 47p
B1902 OPEN
R1956 470
D1944 DAP202U
Q1945 2SA1576A /QR
R1955 220
R1993 1.8k
R1994 10k
C1994 330 /6.3
C1973 0.01
C1974 0.01
C1940 OPEN
C1996 0.01
C1960 OPEN
C1992 0.47
C1961 0.01
R1974 4.12k
R1975 4.7k
C1945 10/16
C1988 OPEN
C1962 1/50
R1977 470k
C1989 OPEN
R1978 1.5k
C1963 0.01
C1964 2.2/50
X1941
C1965 22p
R1979 56
C1975 15p
R1980 330
C1966 0.01
R1981 22k
C1968 0.001
C1969 1500p
C1967 0.1
R1982 1.5k
C1970 2.2/50
CF1941
R1985 OPEN
R1986 0
C1971 0.01
R1987 100
R1988 100
R1991 100
C1995 0.01
C1976 OPEN
C1977 0.01
R1998 2.7k
R1997 18k
C1978 0.01
C1993 47/16
C1980 0.01
C1979 330/6.3
R1934 100
L1944 10μ
R1935 OPEN
R1936 OPEN
C1990 OPEN
C1991 OPEN
R1992 470k
C1972 0.1
IC1901 M52661FP
CL_CAP
43 N/C
44 CL_LEVEL_ADJ
45 CVBSout
46 BYPASS_SW
47 GCRSin
48 A_Vdd
49 D/Aout
50 SUB
51 D/A_REF(+)
52 D/A_REF(-)
53 D/A_OUT_ADJ
54 D_Vdd
55 D/A_CLK
56 D9(LSB)
CVBSin VCA_ADJ A_Vss A/D_REF(-) VCAout A/D_REF(+) A_Vdd BURSTin N/C ACC_FIL APC_FIL A_Vss VCXOout
28 VCXOin
27 BGP_WIDE
26 SYNC_SEPin
25 V-SEP_FIL
24 AFC_FIL
23 VCOin
22 NTSC/PAL(1)
21 SUB
20 FREERUN&TEST_MODE
19 D_Vss
18 BYPASS_CAP
17 VDout
16 HDout
15 NTSC/PAL(0)
4FSCout
P, ON_RESET
N/C
D8 D7 D6 D5 D4 D3 D2 D1 D0(MSB) D_Vss D_Vdd
DA0 DA1 DA2 DA3 DA4 DA5 DA6 DA7 DA8 DA9
K1901
C1901 330 /6.3
D1901 DA204U
R1901 3.9k
IC1904 S-80728AN-DR
R1902 4.7k
C1902 10/16
C1906 0.01
R1903 OPEN
R1904 OPEN
R1907 470k
C1913 0.1
R1908 10k
R1909 10k
R1910 10k
Q1901 2SC4081/QRS
IC1903 OR43101MQC
C1907 0.01
C1909 OPEN
C1914 OPEN
C1908 OPEN
Vss N/C Vcc Vss CLKin Vss CLKDEF Vss N/C N/C N/C CLKRST SCL Vcc SDA Vss Vss SDAA
VIDin(0) VIDin(1) VIDin(2)
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7
25 VIDin(3)
26 Vss
27 Vss
28 VIDin(4)
29 Vcc
30 VIDin(5)
31 Vss
32 VIDin(6)
33 VIDin(7)
34 VIDin(8)
35 V.SYNC
36 Vcc
37 H.SYNC
38 Vss
39 Vss
40
C1903 OPEN
C1904 OPEN
C1905 OPEN
CHNDET
VCRDET
N/C 80
DEMO 79
BYPASS 78
Vcc 77
OSD 76
Vss 75
N/C 74
OSDTYP 73
PARM(0) 72
PARM(1) 71
Vcc 70
Vss 69
Vss 68
67 66 65
STATUS2
STATUS1
PARM(2) PARM(3) PARM(4)
N/C N/C Vcc VIDout(9) Vss Vss VIDout(8) Vcc VIDout(7) Vss VIDout(6) VIDout(5) VIDout(4) VIDout(3) Vss Vss Vcc VIDout(2) Vcc VIDout(1) Vss VIDout(0) Vcc PARM(5)
R1912 0
R1913 OPEN
C1917 OPEN
R1914 OPEN
R1915 OPEN
R1916 OPEN
R1917 OPEN
R1918 OPEN
R1919 OPEN
C1918 OPEN
R1920 OPEN
R1921 OPEN
R1922 OPEN
R1923 OPEN
R1924 OPEN
R1925 OPEN
R1926 OPEN
R1911 0
C1910 OPEN
C1911 OPEN
C1912 OPEN
C1916 OPEN
C1915 OPEN
RA1901 100Ω
RA1902 100Ω
R1905 100
R1906 100
DA9 DA8 DA7 DA6 DA5 DA4 DA3 DA2 DA1 DA0
D1943 DA204U
R1931 22k
IC1905 S-80742AN-D6
C1981 10/16
R1932 4.7k
B1901 OPEN
C1982 0.01
1 2 3 4 5
A B C D E F G H

WAVEFORMS

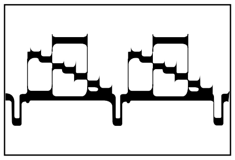
— VIDEO/AUDIO —

WF1 IC1-1



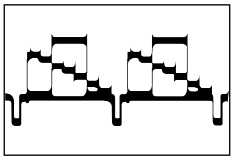
PB 0.28 Vp-p
20 mV/5 msec/DIV

WF2 IC1-11



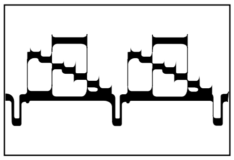
REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF3 IC1-13



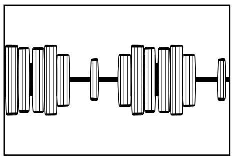
REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF4 IC1-14



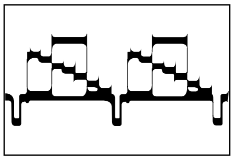
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF5 IC1-16



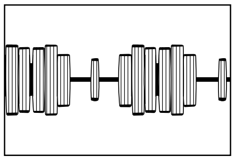
REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF6 IC1-27



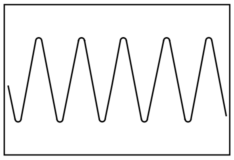
PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF7 IC1-30



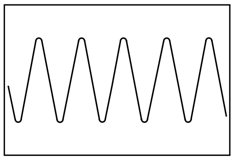
PB 0.68 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-48



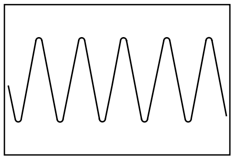
PB 0.84 Vp-p
20 mV/0.5 msec/DIV

WF9 IC1-52



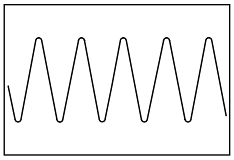
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF10 IC1-62



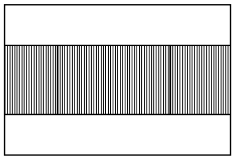
REC/PB 0.86 Vp-p
20 mV/0.5 msec/DIV

WF11 IC1-80



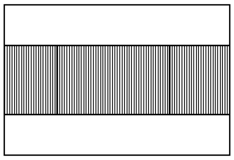
REC 0.2 Vp-p
5 mV/0.5 msec/DIV

WF12 IC1-97



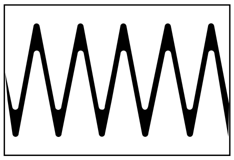
REC 1.1 Vp-p
50 mV/5 msec/DIV

WF13 IC1-105



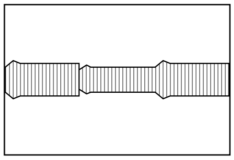
REC 2.2 Vp-p
0.1 V/1 msec/DIV

WF14 IC1-119



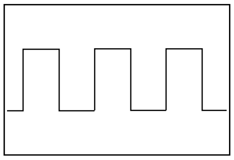
REC 0.9 Vp-p
20 mV/0.5 msec/DIV

WF15 TP2253 A.FM



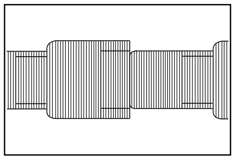
PB 0.8 Vp-p
50 mV/5 msec/DIV

WF16 TP111 D.FF



REC/PB 3.4 Vp-p
0.1 V/10 msec/DIV

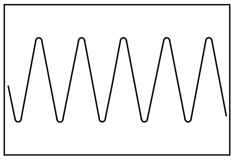
WF17 TP106 PB.FM



PB 1.1 Vp-p
20 mV/5 msec/DIV

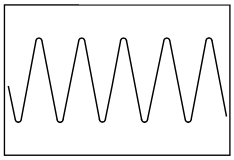
— VSC —

WF1 LPF2501-3



PB 0.32 Vp-p
10 mV/0.5 msec/DIV

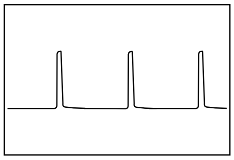
WF2 IC2501-48



PB 0.9 Vp-p
20 mV/0.5 msec/DIV

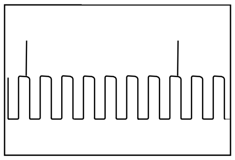
— SYSCON —

WF1 CN3001-4 D.PG



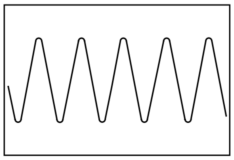
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF2 CN3001-5 D.FG



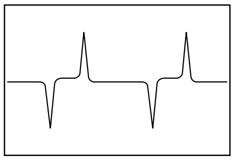
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF3 CN3003-2 CAP_FG



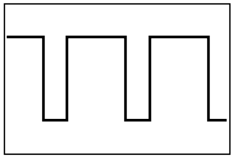
REC/PB 2.4 Vp-p
50 mV/0.5 msec/DIV

WF4 TP4001 CTL.P



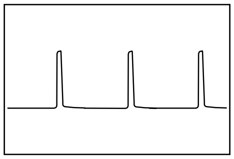
PB 2.1 Vp-p
0.1 V/10 msec/DIV

WF5 IC3001-1 CTL(+)



REC 3.6 Vp-p
0.1 V/10 msec/DIV

WF6 IC3001-98 C.SYNC



REC/PB 4.0 Vp-p
0.1 V/20 µsec/DIV

COMPONENT PARTS LOCATION GUIDE <MAIN>

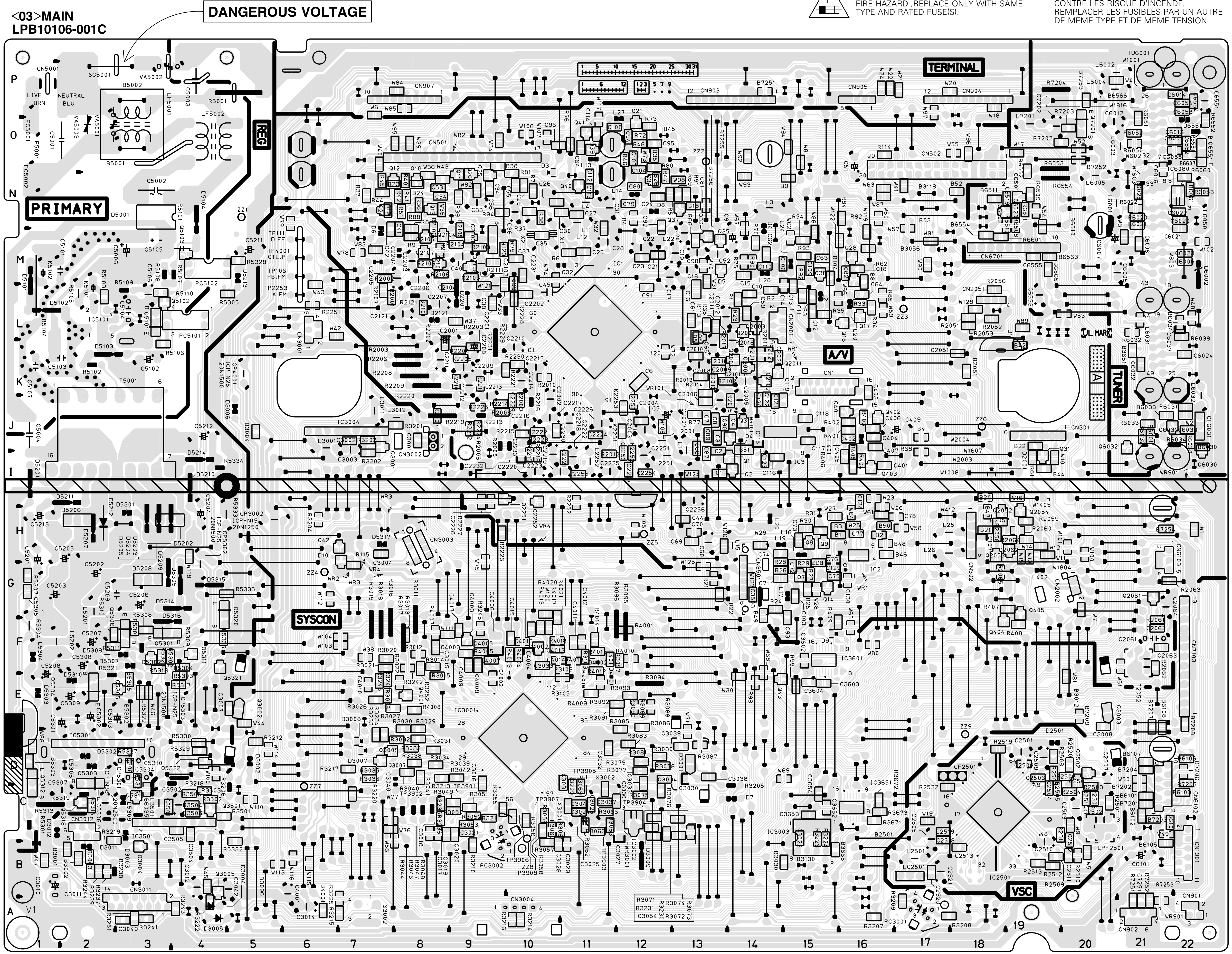
REF.NO.	LOCATION		
CAPACITOR			
C1	B	C	13I
C2	B	C	13I
C3	B	C	13J
C4	B	C	14J
C5	A	D	13J
C6	B	C	12K
C7	B	C	13J
C8	B	C	13J
C9	A	D	14M
C10	B	C	14L
C11	B	C	15L
C12	B	C	15L
C13	B	C	15L
C14	B	C	15L
C15	B	C	14M
C16	B	C	13L
C17	A	D	12M
C18	A	D	13M
C19	A	D	13M
C20	A	D	13M
C21	B	C	12M
C22	A	D	12M
C23	B	C	12M
C24	B	C	12N
C25	B	C	11M
C26	B	C	10N
C27	B	C	11N
C28	A	D	11M
C29	B	C	10N
C30	B	C	11N
C31	A	D	11N
C32	A	D	11M
C33	A	D	9N
C34	B	C	9N
C35	B	C	10M
C36	A	D	10N
C37	B	C	10M
C38	A	D	9L
C39	B	C	10M
C40	A	D	9M
C41	B	C	8M
C42	B	C	7M
C44	B	C	13H
C45	A	D	10L
C51	A	D	16N
C52	A	D	13M
C53	B	C	8N
C54	B	C	8N
C55	B	C	10N
C56	B	C	9N
C59	B	C	14L
C60	A	D	13H
C61	B	C	13L
C62	B	C	14M
C63	B	C	15M
C64	B	C	11O
C65	A	D	13K
C69	B	C	13H
C70	B	C	13H
C71	B	C	14G
C72	B	C	15G
C73	B	C	15H
C74	B	C	14H
C75	B	C	15G
C76	B	C	15H
C77	B	C	16H
C78	B	C	17H
C79	B	C	12N
C80	B	C	12N
C81	B	C	13N
C82	B	C	16M
C84	B	C	16L
C87	B	C	13I
C88	B	C	13J
C89	B	C	13J
C90	B	C	13J
C91	B	C	12L
C92	B	C	12N
C93	B	C	15G
C94	B	C	12O
C95	B	C	12O
C96	B	C	10O
C98	A	D	13M
C103	B	C	15G
C104	B	C	12O
C105	B	C	12O
C106	B	C	15M
C107	B	C	18H
C108	B	C	11O
C109	B	C	15M
C110	B	C	14M
C112	B	C	11N
C113	B	C	11N
C114	B	C	11O
C115	B	C	14J
C116	B	C	14I
C117	B	C	15J
C118	B	C	15J
C119	B	C	15J
C120	B	C	14J
C121	B	C	14J
C122	B	C	14J
C123	B	C	14I
C124	B	C	16I
C129	B	C	15G
C130	B	C	16G
C401	B	C	16I
C402	B	C	16J
C403	B	C	16K
C404	B	C	16J
C405	B	C	16I
C406	B	C	16J
C407	B	C	16J
C409	A	D	16J
C2001	A	D	9K
C2002	A	D	10K
C2003	A	D	12J
C2004	B	C	12J
C2005	A	D	14J
C2006	B	C	13J
C2007	A	D	13J
C2008	A	D	13K
C2009	B	C	13K
C2010	B	C	13K
C2011	A	D	14L
C2012	A	D	13L
C2013	B	C	13K
C2021	B	C	14K
C2051	B	C	18K
C2061	A	D	21F
C2062	B	C	21F
C2063	B	C	21F
C2064	A	D	21G
C2101	A	D	14K
C2102	A	D	9M
C2103	B	C	9M
C2104	B	C	9L
C2121	A	D	8L
C2201	B	C	9L
C2202	B	C	10L
C2203	A	D	8M
C2204	A	D	8M
C2205	A	D	8M
C2206	A	D	8M
C2207	A	D	8L
C2208	A	D	9K
C2209	A	D	9K
C2210	A	D	10K
C2211	A	D	8K
C2212	A	D	9K
C2213	A	D	9J
C2214	A	D	10K
C2215	A	D	10K
C2216	A	D	10J
C2217	A	D	10J
C2218	A	D	11J
C2219	A	D	10J
C2220	A	D	10I
C2221	B	C	11I
C2222	A	D	11I
C2223	A	D	11I
C2224	B	C	11J
C2225	A	D	11I
C2226	A	D	11J
C2227	B	C	12I
C2228	B	C	9I
C2229	B	C	10J
C2230	B	C	10J
C2231	B	C	10M
C2232	B	C	9I
C2233	B	C	10I
C2251	A	D	12J
C2252	B	C	12J
C2253	B	C	12I
C2254	B	C	12I
C2255	B	C	11I
C2256	A	D	13I
C2501	A	D	19D
C2502	B	C	20C
C2503	A	D	20C
C2504	B	C	19C
C2505	A	D	17B
C2506	B	C	19D
C2507	A	D	20D
C2508	B	C	19D
C2509	A	D	19D
C2510	A	D	19B
C2511	B	C	20B
C2512	B	C	20C
C2513	B	C	18B
C2518	B	C	17C
C2519	B	C	17C
C2520	B	C	17B
C2521	A	D	17B
C3001	B	C	8J
C3002	B	C	7J
C3003	A	D	7J
C3004	B	C	7H
C3007	B	C	5E
C3008	B	C	20E
C3010	A	D	1B
C3011	A	D	1B
C3012	A	D	4B
C3014	A	D	6A
C3015	B	C	8F
C3016	B	C	9D
C3017	B	C	8C
C3018	B	C	8C
C3019	B	C	8C
C3020	B	C	9C
C3021	B	C	9C
C3022	B	C	15C
C3024	B	C	11C
C3025	A	D	11C
C3026	B	C	11C
C3027	B	C	12C
C3028	B	C	10B
C3029	B	C	11B
C3030	B	C	13D
C3031	B	C	11D
C3032	B	C	11D
C3033	B	C	10F
C3034	B	C	12D
C3035	B	C	12D
C3036	B	C	12C
C3037	B	C	11C
C3038	B	C	13D
C3039	B	C	13D
C3040	A	D	8D
C3041	B	C	11C
C3042	A	D	5B
C3049	B	C	3A
C3054	B	C	12C
C3501	B	C	3C
C3502	A	D	4C
C3503	B	C	14G
C3504	B	C	4C
C3505	B	C	4C
C3602	B	C	15F
C3603	B	C	15E
C3604	B	C	15E
C3652	B	C	15C
C3653	B	C	15C
C3654	B	C	15C
C4001	A	D	6B
C4002	B	C	9E
C4003	B	C	9F
C4004	B	C	10F
C4005	B	C	9F
C4006	B	C	9F
C4007	B	C	9F
C4008	B	C	9F
C4009	B	C	9F
C4010	B	C	7E
C4011	B	C	11F
C4012	B	C	11F
C4013	B	C	10F
C4014	B	C	10F
C4015	B	C	10F
C4016	B	C	10F
C4017	B	C	9F
C5001	A	D	2O
C5002	A	D	4N
C5003	A	D	4P
C5004	A	D	1J
C5006	A	D	3M
C5101	A	D	2M
C5102	A	D	3K
C5103	A	D	1K
C5104	A	D	3L
C5105	A	D	3M
C5106	A	D	3L
C5107	A	D	1K
C5201	A	D	1G
C5202	A	D	2G
C5203	A	D	1G
C5204	A	D	4H
C5205	A	D	2H
C5206	A	D	3G
C5207	A	D	2F
C5208	A	D	1E
C5209	A	D	3G
C5211	A	D	5M
C5212	A	D	4J
C5213	A	D	1H
C5301	A	D	2D
C5302	A	D	2E
C5303	A	D	3E
C5304	A	D	3D
C5305	B	C	1G
C5306	A	D	2C
C5307	A	D	2C
C5308	A	D	2F
C5309	A	D	2E
C5310	A	D	3D
C6005	A	D	21M
C6006	B	C	22M
C6007	A	D	20M
C6008	B	C	21M
C6012	A	D	21O
C6013	B	C	22O
C6014	B	C	22P
C6016	B	C	21O
C6020	B	C	22N
C6021	B	C	22M
C6022	B	C	22N
C6023	B	C	22M
C6024	B	C	22K
C6032	B	C	21K
C6033	B	C	22J
C6037	B	C	22L
C6052	B	C	22O
C6053	B	C	22P
C6054	B	C	22P
C6055	B	C	22O
C6101	A	D	21B
C6519	B	C	19N
C6520	B	C	19N
C6551	A	D	22P
C6552	B	C	22O
C6553	A	D	19L
C6554	B	C	22P
C6555	B	C	19M
C7202	A	D	19O
C7251	B	C	21A
CONNECTOR			
CN1	A	D	15K
CN301	A	D	20J
CN302	A	D	18H
CN501	A	D	7O
CN502	A	D	18O
CN901	A	D	22A
CN902	A	D	21A
CN903	A	D	14P
CN904	A	D	19P
CN905	A	D	16P
CN907	A	D	8P
CN1901	A	D	22C
CN2001	A	D	14L
CN2002	A	D	20G
CN2051	A	D	18L
CN3001	A	D	6L
CN3002	A	D	8J
CN3003	A	D	8H
CN3004	A	D	10A
CN3011	A	D	3A
CN3012	A	D	2C
CN3501	A	D	14H
CN5001	A	D	1P
CN6102	A	D	21C
CN6103	A	D	21H
CN6701	A	D	18M
CN7103	A	D	22E
DIODE			
D1	B	C	19K
D3	B	C	10O
D4	A	D	14M
D5	B	C	13M
D6	A	D	7N
D7	A	D	13C
D8	A	D	12N
D9	B	C	15F
D10	B	C	7H
D2001	B	C	18I
D2121	A	D	8L
D2201	A	D	9M
D2501	A	D	20D
D3001	A	D	13D
D3002	A	D	5D
D3003	A	D	3B
D3004	A	D	4A
D3005	A	D	4A
D3006	A	D	5J
D3007	B	C	7D
D3008	B	C	7D
D3009	A	D	12B
D3011	A	D	2B
D3012	A	D	1C
D4001	B	C	11E
D4002	B	C	11F
D5001	B	C	3N
D5101	A	D	1L
D5102	A	D	2L
D5103	A	D	2K
D5104	A	D	4N
D5201	A	D	1I
D5202	A	D	4H
D5203	A	D	4I
D5204	A	D	3I
D5205	A	D	3I
D5206	A	D	2H
D5207	A	D	2H
D5208	A	D	3G
D5209	A	D	3H
D5210	A	D	4I
D5211	A	D	1I
D5212	A	D	2I
D5213	A	D	5L
D5214	A	D	4I
D5301	A	D	3H
D5302	A	D	2D
D5303	A	D	1E
D5304	A	D	1F
D5305	A	D	4G
D5306	A	D	2D
D5307	A	D	3F
D5308	A	D	2F
D5309	A	D	3C
D5310	A	D	2E
D5314	A	D	3G
D5315	A	D	5G
D5316	A	D	3F
D5317	A	D	7H
D6002	A	D	22L
D6551	A	D	22O
IC			
IC1	B	C	11L
IC2	B	C	16H
IC3	B	C	14J
IC2501	B	C	18C
IC3001	B	C	10D
IC3002	B	C	12C
IC3003	A	D	15C
IC3004	A	D	7J
IC3501	A	D	4C
IC3601	B	C	15F
IC3651	B	C	16C
IC5101	A	D	2L
IC5301	A	D	1D
IC6080	B	C	22N
COIL			
L1	A	D	13J
L2	A	D	15L
L3	A	D	14N
L4	A	D	11N
L5	A	D	9M
L11	A	D	11N
L12	A	D	11M
L13	A	D	11O
L14	A	D	12N
L15	A	D	14H
L17	A	D	15G
L18	A	D	15H
L19	A	D	15H
L20	A	D	16L
L22	A	D	12M
L24	A	D	15M
L25	A	D	18H
L26	A	D	18H
L27	A	D	12O
L28	A	D	14M
L29	A	D	14H
L401	A	D	16J
L402	A	D	19G
L2001	A	D	12J
L2251	A	D	13I
L2252	A	D	11I
L2501	A	D	17B
L3001	A	D	6J
L3011	A	D	7J
L3012	A	D	7J
L3501	A	D	3C
L5201	A	D	2G
L5202	A	D	1F
L6001	A	D	20N
L6002	A	D	21P
L6003	A	D	21O
L6004	A	D	20P
L6005	A	D	20N
L6031	B	C	21L
L6032	A	D	22J
L6050	A	D	22N
L7201	A	D	19O
TRANSISTOR			
Q1	B	C	14I
Q2	B	C	14I
Q3	B	C	14J
Q4	B	C	14J
Q5	B	C	13L
Q7	B	C	15G
Q8	B	C	15H
Q9	B	C	15H
Q10	B	C	8N
Q11	B	C	9N
Q12	B	C	8N
Q13	B	C	8N
Q14	B	C	15G
Q16	B	C	16L
Q17	B	C	16L
Q18	B	C	16M
Q21	B	C	12O
Q24	B	C	7N
Q25	B	C	9N
Q26	B	C	9N
Q28	B	C	16M
Q31	B	C	19I
Q32	B	C	13M
Q34	B	C	12N
Q35	B	C	13M
Q37	B	C	13N
Q38	B	C	15M
Q39	B	C	11O
Q40	B	C	11N
Q41	B	C	11O
Q42	B	C	7H
Q43	B	C	14E
Q401	B	C	16J
Q402	B	C	16J
Q403	B	C	16I
Q404	B	C	18F
Q405	B	C	19G
Q2001	B	C	14L
Q2002	B	C	14K
Q2003	B	C	14L
Q2004	B	C	14K
Q2011	B	C	14K
Q2052	B	C	18H
Q2053	B	C	18H
Q2054	B	C	19H
Q2061	B	C	21G
Q2062	B	C	19H
Q2102	B	C	14K
Q2103	B	C	9M
Q2104	B	C	8M
Q2105	B	C	8M
Q2106	B	C	8M
Q2107	B	C	8M
Q2108	B	C	9M
Q2251	B	C	10I
Q2252	B	C	10I
Q2501	B	C	20D
Q2502	B	C	20D
Q3001	B	C	7J
Q3002	A	D	5E
Q3003	A	D	20E
Q3004	B	C	3B
Q3005	B	C	4B
Q3007	B	C	7D
Q3009	B	C	7D
Q3501	B	C	4C
Q4001	B	C	8E
Q4002	B	C	10F
Q4003	B	C	9F
Q5101	A	D	3L
Q5102	B	C	3L
Q5103	B	C	4M
Q5301	A	D	3F
Q5302	B	C	3F
Q5303	A	D	2D
Q5304	A	D	2E
Q5305	B	C	3E
Q5306	A	D	3F
Q5310	B	C	3C
Q5311	B	C	4F
Q5312	A	D	1D
Q5318	B	C	2C
Q5320	A	D	4G
Q5321	B	C	4F
Q5322	B	C	4D
Q6030	B	C	22I
Q6031	B	C	22J
Q6032	B	C	21J
Q6501	B	C	19N
Q6502	B	C	18N
Q6551	A	D	22O
Q7201	A	D	20P
RESISTOR			
R1	B	C	14L
R2	B	C	14L
R3	B	C	15L
R4	B	C	12N
R5	B	C	12N
R6	B	C	11M
R7	B	C	10N
R8	B	C	8M
R9	B	C	8M
R21	B	C	13G
R22	B	C	13G
R23	B	C	14L
R24	B	C	14G
R25	B	C	15G
R26	B	C	14G
R27	B	C	15G
R28	B	C	14H
R29	B	C	15G
R30	B	C	15H
R31	B	C	15H
R32	B	C	15G
R33	B	C	16L
R34	B	C	16L
R35	B	C	15L
R36	B	C	8N
R37	B	C	10N
R38	B	C	10N
R39	B	C	9N
R40	B	C	8N
R41	B	C	8N
R42	B	C	8N
R43	B	C	8N
R44	B	C	7N
R45	B	C	7N
R46	B	C	12O
R47	B	C	12N
R48	B	C	12O
R51	B	C	8N
R54	B	C	15M
R61	B	C	19I
R62	B	C	16M
R65	B	C	13L
R66	B	C	13M
R68	B	C	17I
R69	B	C	13N
R70	B	C	14M
R72	B	C	12O
R73	B	C	12O
R75	B	C	14M
R76	B	C	11O
R77	B	C	13J
R79	B	C	10M
R80	B	C	12O
R81	B	C	10N
R82	B	C	16M
R84	B	C	16N
R85	B	C	16L
R88	B	C	8N
R90	B	C	14M
R91	B	C	13N
R92	B	C	15M
R93	B	C	15M
R94	B	C	9N
R98	B	C	14E
R99	B	C	15E
R104	B	C	15M
R113	B	C	13L
R114	B	C	16O
R115	B	C	7G
R401	B	C	16J
R402	B	C	16J
R403	B	C	16J
R404	B	C	16I
R405	B	C	16I
R406	B	C	16I
R407	B	C	19G
R408	B	C	19F
R409	B	C	15F
R2001	B	C	7L
R2002	B	C	7M
R2003	A	D	7K
R2005	A	D	9I
R2006	A	D	10I
R2007	B	C	8J
R2008	B	C	9J
R2009	B	C	10J
R2010	B	C	10K
R2011	B	C	14K
R2012	B	C	11I
R2013	B	C	13K
R2014	B	C	13K
R2015	B	C	14J
R2016	B	C	13K
R2017	B	C	13K
R2018	B	C	14K
R2019	B	C	14K
R2020	B	C	14K
R2051	B	C	18L
R2052	B	C	18L
R2053	B	C	18L
R2056	B	C	18L
R2057	B	C	18H
R2058	B	C	18H
R2059	B	C	19H
R2060	B	C	19H
R2061	B	C	21F
R2062	B	C	21F
R2063	B	C	21G
R2064	B	C	19H
R2065	B	C	18G
R2102	B	C	13K
R2103	B	C	9M
R2104	B	C	9M
R2105	B	C	9M
R2106	B	C	8M
R2107	B	C	7L
R2108	B	C	8M
R2109	B	C	8M
R2110	B	C	8M
R2111	B	C	9M
R2121	A	D	8L
R2202	B	C	8K
R2203	B	C	9K
R2204	B	C	9K
R2205	B	C	9K
R2206	A	D	7K
R2208	A	D	8K
R2209	A	D	8K
R2210	B	C	9K
R2211	B	C	9K
R2212	B	C	9J
R2213	A	D	9J
R2214	B	C	9J
R2215	B	C	10J
R2216	A	D	10J
R2217	B	C	10I
R2218	B	C	10I
R2219	A	D	9J
R2220	A	D	9J
R2221	B	C	10K
R2222	B	C	10J
R2223	B	C	10J
R2224	B	C	9J
R2225	B	C	9J
R2226	B	C	9H
R2227	B	C	9I
R2228	B	C	10L
R2229	A	D	10L
R2230	B	C	10K
R2231	A	D	9L
R2251	B	C	6L
R2252	B	C	11I
R2501	B	C	20C
R2502	B	C	20C
R2503	B	C	20C
R2504	B	C	20C
R2505	B	C	19C
R2506	B	C	20D
R2507	B	C	19D
R2508	B	C	19D
R2509	B	C	19B
R2510	B	C	20B
R2511	B	C	19C
R2512	B	C	19B
R2513	B	C	19B
R2514	B	C	20C
R2519	B	C	18D
R2520	B	C	20D
R2522	B	C	17C
R3011	A	D	8F
R3012	B	C	8F
R3013	B	C	8F
R3014	B	C	8F
R3015	B	C	8E
R3016	A	D	7F
R3017	A	D	8F
R3018	A	D	7F
R3019	A	D	7F
R3020	B	C	7F
R3021	B	C	7F
R3022	B	C	8E
R3025	B	C	7E
R3026	B	C	7E
R3027	B	C	7E
R3029	B	C	8E
R3030	B	C	8E
R3031	B	C	8D
R3032	B	C	8D
R3033	B	C	8D
R3034	B	C	8D
R3035	B	C	7D
R3036	B	C	7D
R3038	B	C	8D
R3039	B	C	8D
R3040	B	C	8D
R3041	B	C	8D
R3042	B	C	9D
R3044	A	D	8C
R3046	A	D	8C
R3047	A	D	8C
R3048	A	D	8C
R3049	B	C	9C
R3050	B	C	9C
R3051	B	C	9C
R3052	B	C	9C
R3053	B	C	9C
R3054	B	C	10C
R3055	B	C	9C
R3056	B	C	10C
R3057	B	C	10B
R3058	B	C	10C
R3059	B	C	10C
R3060	B	C	10C
R3061	B	C	11C
R3062	B	C	11C
R3063	B	C	11C
R3066	B	C	11C
R3069	B	C	11C
R3071	B	C	12C
R3072	B	C	13C
R3073	B	C	13C
R3074	B	C	13C
R3075	B	C	12C
R3076	B	C	12C
R3077	B	C	12D
R3078	B	C	12D
R3079	B	C	12D
R3080	B	C	12D
R3081	B	C	12D
R3083	B	C	12D
R3085	B	C	12D
R3086	B	C	12E
R3087	B	C	13D
R3088	B	C	12E
R3089	B	C	12E
R3090	B	C	12E
R3091	B	C	12E
R3092	B	C	12E
R3093	B	C	12E
R3094	A	D	12E
R3095	A	D	12F
R3096	A	D	12F
R3097	B	C	12F
R3103	B	C	11F
R3105	B	C	11E
R3106	B	C	11F
R3201	B	C	8J
R3202	B	C	7I
R3203	B	C	7J
R3204	B	C	6H
R3205	A	D	14C
R3206	A	D	5C
R3207	B	C	16A
R3208	B	C	17A
R3209	B	C	17A
R3210	B	C	9B
R3211	B	C	9C
R3212	B	C	5D
R3213	B	C	8D
R3214	B	C	10A
R3215	B	C	7A
R3216	B	C	10A
R3217	B	C	7D
R3218	A	D	4D
R3219	B	C	2B
R3220	B	C	7C
R3222	B	C	4A
R3223	B	C	15C
R3224	B	C	15C
R3225	B	C	7A
R3229	B	C	11C
R3230	B	C	12C
R3231	B	C	12C
R3233	B	C	7D
R3234	B	C	7D
R3235	B	C	8C
R3236	B	C	8C
R3237	B	C	2B
R3238	A	D	2B
R3239	B	C	2B
R3241	B	C	3A
R3242	B	C	8F
R3243	B	C	4A
R3244	B	C	2B
R3245	B	C	9F
R3246	B	C	7E
R3247	B	C	7E
R3251	B	C	3A
R3252	B	C	8F
R3501	B	C	4C
R3502	B	C	4C
R3503	B	C	4C
R3504	B	C	4C
R3505	B	C	4C
R3506	B	C	4C
R3671	B	C	16C
R3672	B	C	16C
R3673	B	C	16C
R4001	B	C	12F
R4003	B	C	10F
R4004	B	C	10F
R4005	B	C	9F
R4007	B	C	8F
R4008	B	C	8E
R4009	B	C	11E
R4010	B	C	12F
R4011	B	C	11F
R4012	B	C	11F
R4013	B	C	10F
R4014	B	C	11F
R4015	B	C	11F
R4016	B	C	11E
R4017	B	C	10F
R4018	B	C	10F
R4019	B	C	11F
R4020	B	C	10G
R4021	B	C	10G
R5001	A	D	4P
R5101	A	D	4N
R5102	A	D	2K
R5103	B	C	2L
R5104	A	D	1L
R5105	A	D	2L
R5106	B	C	3K
R5107	A	D	4M
R5108	A	D	3M
R5109	A	D	3L
R5110	B	C	3L
R5301	A	D	1C
R5302	B	C	3F
R5303	B	C	4E
R5304	A	D	1G
R5305	B	C	5L
R5306	B	C	3D
R5307	B	C	1G
R5308	B	C	3F
R5309	A	D	3F
R5310	B	C	2F
R5311	B	C	2F
R5313	A	D	1C
R5314	B	C	2C
R5317	B	C	4E
R5318	B	C	3F
R5319	A	D	2C
R5321	A	D	3E
R5322	B	C	3E
R5323	B	C	3F
R5326	B	C	3D
R5327	B	C	3D
R5328	B	C	5M
R5329	B	C	4D
R5330	B	C	4D
R5332	B	C	5B
R5333	A	D	4H
R5334	A	D	5I
R5335	B	C	5G
R5336	B	C	4F
R6020	B	C	21N
R6021	B	C	21N
R6022	B	C	21N
R6025	B	C	21N
R6030	B	C	22J
R6031	B	C	22J
R6032	B	C	21L
R6033	B	C	21J
R6034	B	C	22J
R6038	B	C	22L
R6050	B	C	21O
R6051	B	C	21O
R6052	B	C	21O
R6053	B	C	22N
R6060	B	C	22N
R6061	B	C	22N
R6508	B	C	19N
R6509	B	C	19N
R6510	B	C	19N
R6511	B	C	19N
R6551	A	D	22O
R6552	B	C	22O
R6553	A	D	20O
R6554	A	D	20N
R6601	B	C	18M
R7202	B	C	20O
R7203	B	C	20O
R7204	A	D	19P
R7251	B	C	21A
R7252	B	C	21A
R7253	B	C	21A
TEST POINT			
TP106	A	D	6M
TP111	A	D	6M
TP2253	A	D	6L
TP3901	B	C	9C
TP3902	B	C	8C
TP3903	B	C	11C
TP3904	B	C	12C
TP3905	B	C	11C
TP3906	B	C	10C
TP3907	B	C	10C
TP3908	B	C	10C
TP4001	A	D	6M
OTHER			
CF2501	A	D	17D
CF6031	A	D	22J
CP3002	A	D	6H
CP4001	A	D	5K
CP5301	A	D	2D
CP5302	A	D	4H
CP5303	A	D	4E
F5001	A	D	1P
FC5001	A	D	1P
FC5002	A	D	1N
K2251	B	C	12J
K2252	B	C	12I
K2253	B	C	12J
K5101	A	D	2L
K5102	A	D	1M
LC2501	A	D	17B
LF5001	A	D	2P
LF5002	A	D	5O
LPF2501	A	D	20C
PC3001	A	D	17A
PC3002	A	D	9C
PC5101	A	D	4L
PC5102	A	D	5M
S3002	A	D	7A
SG5001	A	D	2P
T2052	A	D	21F
T5001	A	D	2J
TU6001	A	D	21P
VA5001	A	D	2P
VA5002	A	D	4P
VA5003	A	D	2P
WR1	A	D	16G
WR2	A	D	7G
WR3	A	D	7G
WR4	A	D	7G
WR101	A	D	14J
WR901	A	D	21A
WR3001	A	D	12C
X1	A	D	10N
X2	A	D	10M
X3001	A	D	11C
X3002	A	D	11C

4.15 MAIN, AUDIO ERASE, A/C HEAD AND LOADING MOTOR CIRCUIT BOARDS

• CAUTION
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD ,REPLACE ONLY WITH SAME
TYPE AND RATED FUSE(S).

• ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDE,
REMPLACER LES FUSIBLES PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.

<03>MAIN
LPB10106-001C


DANGEROUS VOLTAGE
PRIMARY
REG
TERMINAL
A/V
TUNER
SYSCON
VSC
UL MARK
LIVE BRN
NEUTRAL BLU
CN5001
F5001
B5002
B5001
PC5101
PC5102
IC5101
T5001
IC3004
IC3001
IC3003
IC3651
IC2501
IC1
IC2
IC3
CN501
CN502
CN903
CN904
CN905
CN907
CN6701
CN1
CN301
CN3001
CN3002
CN3003
CN3004
CN3011
CN3012
CN901
CN902
CN6103
CN7103
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
V1
1
2
3
4
5
6
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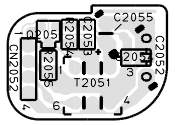
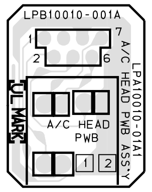
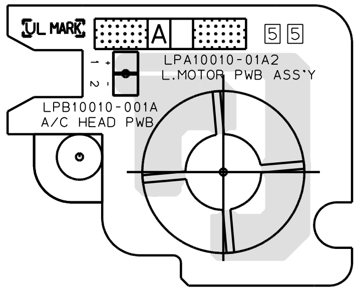
<46>AUDIO ERASE
LPB10106-001C


C2055
C2052
T2051
CN2052

<12>A/C HEAD
LPB10010-001A


LPB10010-001A
A/C HEAD PWB
LPA10010-01A1 A/C HEAD PWB ASS'Y

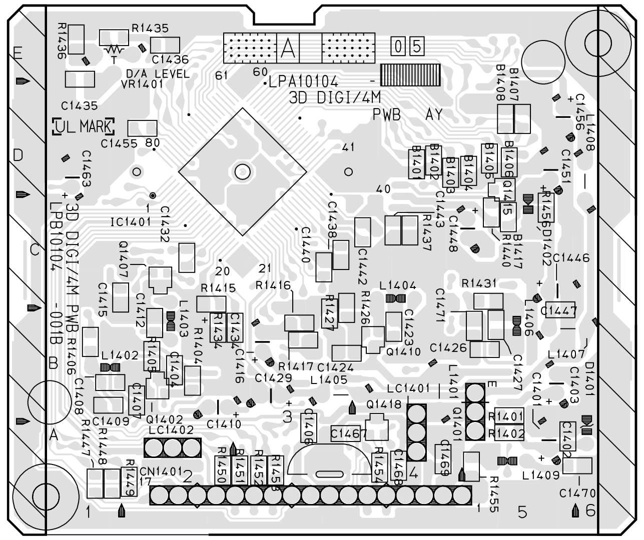
<55>LOADING MOTOR
LPB10010-001A


UL MARK
A
55
LPA10010-01A2
L.MOTOR PWB ASS'Y
LPB10010-001A
A/C HEAD PWB

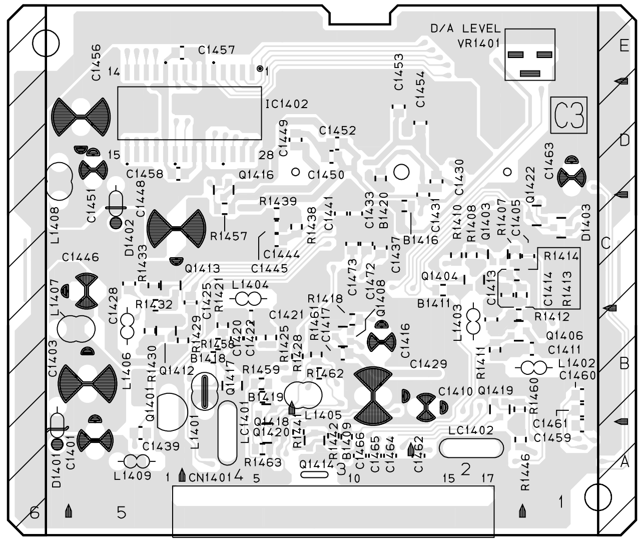
4.16 3D DIGITAL/4M CIRCUIT BOARD

<05> 3D DIGITAL/4M
LPB10104-001B

— FOIL SIDE(B) —


LPA10104
3D DIGI/4M
PWB AY
D/A LEVEL
VR1401
UL MARK
IC1401
CN1401
LPB10104
3D DIGI/4M PWB
-001B

— COMPONENT SIDE(A) —

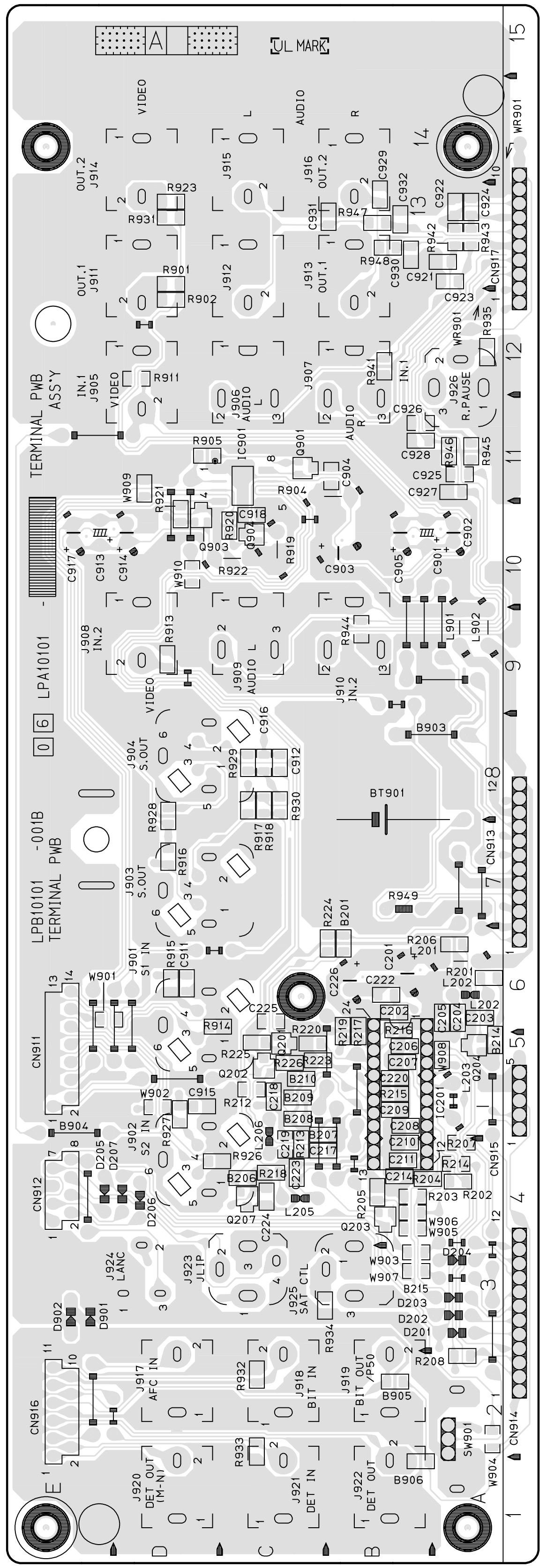

D/A LEVEL
VR1401
C3
IC1402
CN1401

COMPONENT PARTS LOCATION GUIDE <3D DIGITAL/4M>

REF.NO.	LOCATION		
CAPACITOR			
C1401	A	D	5A
C1402	B	C	5A
C1403	A	D	5B
C1404	B	C	2B
C1405	A	C	1C
C1406	B	C	3A
C1407	B	C	2B
C1408	B	C	1B
C1409	B	C	1B
C1410	A	D	2B
C1411	A	C	1B
C1412	B	C	2B
C1413	A	C	2B
C1414	A	C	2C
C1415	B	C	1C
C1416	A	D	3B
C1417	A	C	3B
C1420	A	C	4B
C1421	A	C	4B
C1422	A	C	4B
C1423	B	C	4B
C1424	B	C	3B
C1425	A	C	4C
C1426	B	C	5B
C1427	B	C	5B
C1428	A	C	5C
C1429	A	D	3B
C1430	A	C	2D
C1431	A	C	2D
C1432	B	C	2C
C1433	A	C	3C
C1434	B	C	3B
C1435	B	C	1E
C1436	B	C	2E
C1437	A	C	3C
C1438	B	C	3C
C1439	A	C	5A
C1440	B	C	3C
C1441	A	C	3C
C1442	B	C	4C
C1443	B	C	4C
C1444	A	C	4C
C1445	A	C	4C
C1446	A	D	5C
C1447	B	C	5B
C1448	A	D	5C
C1449	A	C	4D
C1450	A	C	3D
C1451	A	D	5D
C1452	A	C	3D
C1453	A	C	3D
C1454	A	C	2D
C1455	B	C	2D
C1456	A	D	5D
C1457	A	C	5E
C1458	A	C	5D
C1459	A	C	1A
C1460	A	C	1B
C1461	A	C	1B
C1462	A	C	2A
C1463	A	D	1D
C1464	A	C	3A
C1465	A	C	3A
C1466	A	C	3A
C1467	B	C	3A
C1468	B	C	4A
C1469	B	C	4A
C1470	B	C	6A
C1471	B	C	5B
C1472	A	C	3C
C1473	A	C	3C
CONNECTOR			
CN1401	A	D	5A
DIODE			
D1401	A	D	6B
D1402	A	D	5D
D1403	A	C	1C
IC			
IC1401	B	C	3D
IC1402	A	C	4D
COIL			
L1401	A	D	4B
L1402	A	D	1B
L1403	A	D	2B
L1404	A	D	4C
L1405	A	D	4B
L1406	A	D	5B
L1407	A	D	6B
L1408	A	D	6C
L1409	A	D	5A
TRANSISTOR			
Q1401	A	D	5B
Q1402	B	C	2B
Q1403	A	C	2C
Q1404	A	C	2C
Q1406	A	C	2B
Q1407	B	C	2C
Q1408	A	C	3B
Q1410	B	C	4B
Q1412	A	C	5B
Q1413	A	C	5C
Q1414	A	C	3A
Q1415	B	C	5D
Q1416	A	C	4D
Q1417	A	C	4B
Q1418	B	C	4A
Q1419	A	C	2B
Q1420	A	C	4A
Q1421	A	C	4B
Q1422	A	C	1C
RESISTOR			
R1401	B	C	5B
R1402	B	C	5A
R1404	B	C	2B
R1405	B	C	2B
R1406	B	C	1B
R1407	A	C	2C
R1408	A	C	2C
R1410	A	C	2C
R1411	A	C	2B
R1412	A	C	2B
R1413	A	C	2C
R1414	A	C	2C
R1415	B	C	2C
R1416	B	C	3B
R1417	B	C	3B
R1418	A	C	3B
R1421	A	C	4B
R1425	A	C	4B
R1426	B	C	3C
R1427	B	C	3B
R1428	A	C	3B
R1429	A	C	4B
R1430	A	C	5B
R1431	B	C	5C
R1432	A	C	5C
R1433	A	C	5C
R1434	B	C	2B
R1435	B	C	1E
R1436	B	C	1E
R1437	B	C	4C
R1438	A	C	3C
R1439	A	C	4C
R1440	B	C	5C
R1441	A	C	3A
R1442	A	C	3A
R1446	A	C	2A
R1447	B	C	1A
R1448	B	C	1A
R1449	B	C	2A
R1450	B	C	2A
R1451	B	C	3A
R1452	B	C	3A
R1453	B	C	3A
R1454	B	C	4A
R1455	B	C	5A
R1456	B	C	5C
R1457	A	C	4C
R1458	A	C	4B
R1459	A	C	4B
R1460	A	C	2B
R1461	A	C	3B

4.17 TERMINAL CIRCUIT BOARD

<06>TERMINAL
LPB10101-001B


TERMINAL PWB ASS'Y
LPA10101
06
LPB10101 -001B
TERMINAL PWB
UL MARK
VIDEO
AUDIO
L
R
J914 OUT.2
J911 OUT.1
J915
J916 OUT.2
J912
J913 OUT.1
J905 IN.1 VIDEO
J906 AUDIO
J907
J926 R.PAUSE
J908 IN.2
J909 AUDIO
J910 IN.2
J904 S.OUT
J903 S.OUT
J901 S1 IN
J902 S2 IN
J924 LANC
J923 JLIP
J925 SAT CTL
J917 AFC IN
J918 BIT IN
J919 BIT OUT
J920 DET OUT (M-N)
J921 DET IN
J922 DET OUT
BT901
CN911
CN912
CN913
CN914
CN915
CN916
CN917
SW901
W901
A
B
C
D
E
1
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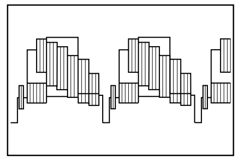
COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C201	A	D	6B
C202	B	C	6B
C203	B	C	6A
C204	B	C	6A
C205	B	C	6A
C206	B	C	5B
C207	B	C	5B
C208	B	C	5B
C209	B	C	5B
C210	B	C	4B
C211	B	C	4B
C214	B	C	4B
C217	B	C	4C
C218	B	C	5C
C219	B	C	4C
C220	B	C	5B
C222	B	C	6B
C223	B	C	4C
C224	B	C	4C
C225	B	C	6C
C226	A	D	6B
C901	A	D	10B
C902	A	D	10A
C903	A	D	10B
C904	B	C	11B
C905	A	D	10B
C911	B	C	6D
C912	B	C	8C
C913	A	D	10E
C914	A	D	10D
C915	B	C	5D
C916	B	C	8C
C917	A	D	10E
C918	B	C	10C
C921	B	C	13A
C922	B	C	13A
C923	B	C	13A
C924	B	C	13A
C925	B	C	11A
C926	B	C	11B
C927	B	C	11A
C928	B	C	11B
C929	B	C	13B
C930	B	C	13B
C931	B	C	13B
C932	B	C	13B
CONNECTOR			
CN911	A	D	5E
CN912	A	D	4E
CN913	A	D	6A
CN914	A	D	2A
CN915	A	D	5A
CN916	A	D	2E
CN917	A	D	12A
DIODE			
D201	A	D	3A
D202	A	D	3A
D203	A	D	3A
D204	A	D	3A
D205	A	D	4E
D206	A	D	4D
D207	A	D	4D
D901	A	D	3E
D902	A	D	3E
IC			
IC201	A	D	6B
IC901	B	C	11C
JACK			
J901	A	D	6D
J902	A	D	4D
J903	A	D	7D
J904	A	D	8D
J905	A	D	12D
J906	A	D	12C
J907	A	D	12B
J908	A	D	9D
J909	A	D	9C
J910	A	D	9B
J911	A	D	13D
J912	A	D	13C
J913	A	D	13B
J914	A	D	14D
J915	A	D	14C
J916	A	D	14B
J917	A	D	2D
J918	A	D	2C
J919	A	D	2B
J920	A	D	1D
J921	A	D	1C
J922	A	D	1B
J923	A	D	3C
J924	A	D	3D
J925	A	D	3B
J926	A	D	12A
COIL			
L201	A	D	6A
L202	A	D	6A
L203	A	D	5A
L205	A	D	4C
L206	A	D	4C
L901	A	D	9A
L902	A	D	9A
TRANSISTOR			
Q201	B	C	5C
Q202	B	C	5C
Q203	B	C	4B
Q204	B	C	5A
Q207	B	C	4C
Q901	B	C	11C
Q903	B	C	10D
Q904	B	C	10C
RESISTOR			
R201	B	C	6A
R202	B	C	4A
R203	B	C	4B
R204	B	C	4B
R205	B	C	4B
R206	B	C	6A
R207	B	C	4A
R208	B	C	2A
R212	B	C	5C
R213	B	C	4C
R214	B	C	4A
R215	B	C	5B
R216	B	C	6B
R217	B	C	6B
R218	B	C	4C
R219	B	C	6B
R220	B	C	5C
R223	B	C	5C
R224	B	C	6B
R225	B	C	5C
R226	B	C	5C
R901	B	C	13D
R902	B	C	12D
R904	A	D	11B
R905	B	C	11D
R911	B	C	12D
R913	B	C	9D
R914	B	C	6D
R915	B	C	6D
R916	B	C	7D
R917	B	C	8C
R918	B	C	8C
R919	A	D	10C

WAVEFORMS

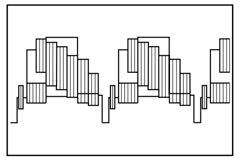
— TERMINAL —

WF1 IC201-15 CV_IN



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

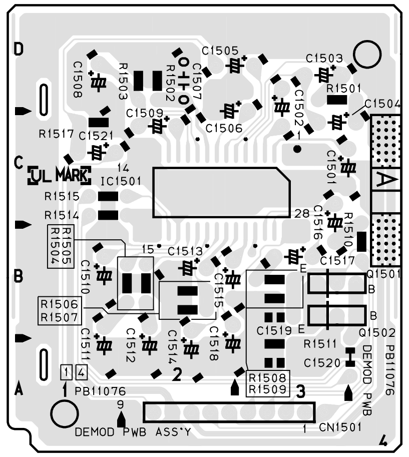
WF2 IC201-13 CVOUT



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

4.18 DEMODULATOR CIRCUIT BOARD

<14>DEMOD
PB11076

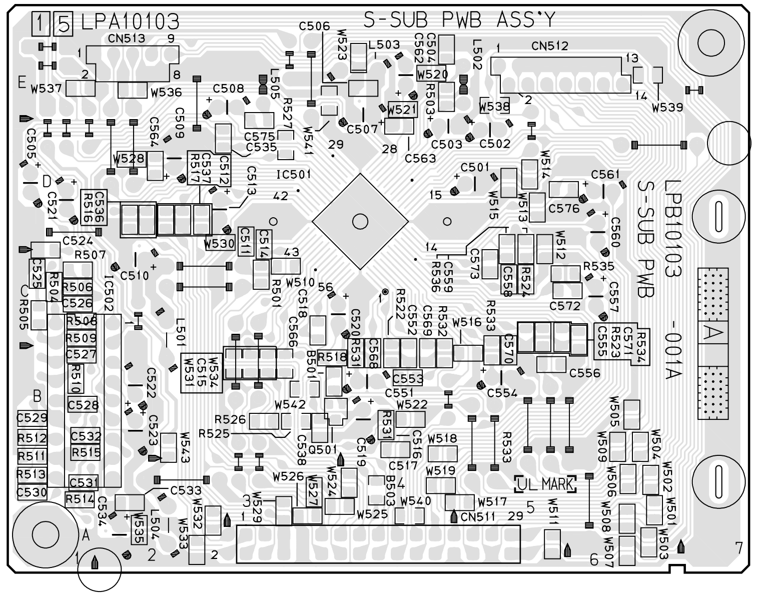


COMPONENT PARTS LOCATION GUIDE <DEMODULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C1501	A	D	4C
C1502	A	D	3D
C1503	A	D	4D
C1504	A	D	4C
C1505	A	D	3D
C1506	A	D	3C
C1507	A	D	2C
C1508	A	D	1D
C1509	A	D	2C
C1510	A	D	1B
C1511	A	D	1A
C1512	A	D	2A
C1513	A	D	2B
C1514	A	D	2A
C1515	A	D	3B
C1516	A	D	3C
C1517	A	D	3B
C1518	A	D	3A
C1519	A	D	3B
C1520	A	D	3A
C1521	A	D	2C
CONNECTOR			
CN1501	A	D	3A
IC			
IC1501	B	C	2C
TRANSISTOR			
Q1501	A	D	3B
Q1502	A	D	3B
RESISTOR			
R1501	A	D	4C
R1502	A	D	2C
R1503	A	D	2C
R1504	A	D	2B
R1505	A	D	2B
R1506	A	D	2B
R1507	A	D	2B
R1508	A	D	3B
R1509	A	D	3B
R1510	A	D	4B
R1511	A	D	3A
R1514	A	D	2B
R1515	A	D	2C
R1517	A	D	2C

4.19 S-SUB CIRCUIT BOARD

<15>S-SUB
LPB10103-001A



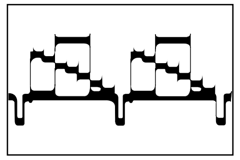
COMPONENT PARTS LOCATION GUIDE <S-SUB>

REF.NO.	LOCATION		
CAPACITOR			
C501	A	D	5D
C502	A	D	5D
C503	A	D	4D
C504	B	C	4E
C505	A	D	1D
C506	B	C	4E
C507	A	D	4E
C508	A	D	2E
C509	A	D	2D
C510	A	D	2C
C511	B	C	3C
C512	B	C	2D
C513	A	D	2D
C514	B	C	3C
C515	B	C	3B
C516	B	C	4B
C517	B	C	4B
C518	B	C	3C
C519	A	D	4B
C520	A	D	3C
C521	A	D	1D
C522	A	D	2B
C523	A	D	2B
C524	B	C	1C
C525	B	C	1C
C526	B	C	1C
C527	B	C	1B
C528	B	C	1B
C529	B	C	1B
C530	B	C	1A
C531	B	C	1A
C532	B	C	1B
C533	B	C	2A
C534	A	D	2A
C535	B	C	2D
C536	B	C	2D
C537	B	C	2D
C538	B	C	3B
C551	A	D	4B
C552	B	C	4B
C553	B	C	4B
C554	A	D	5B
C555	B	C	5C
C556	B	C	5B
C557	A	D	6C
C558	B	C	5C
C559	B	C	5C
C560	A	D	6D
C561	A	D	6D
C562	A	D	4E
C563	B	C	4D
C564	B	C	2D
C566	B	C	3B
C568	B	C	4B
C569	B	C	4B
C570	B	C	5B
C571	B	C	5C
C572	B	C	6C
C573	B	C	5C
C575	B	C	3D
C576	B	C	5D
CONNECTOR			
CN511	A	D	3A
CN512	A	D	5E
CN513	A	D	1E
IC			
IC501	B	C	4D
IC502	A	D	1C
COIL			
L501	A	D	2B
L502	A	D	5E
L503	A	D	3E
L504	A	D	2A
L505	A	D	3E
TRANSISTOR			
Q501	B	C	3B
RESISTOR			
R501	B	C	3C

WAVEFORMS

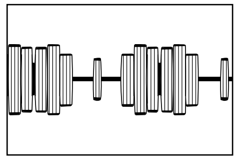
— S-SUB —

WF1 IC501-1



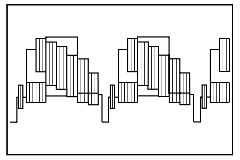
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF2 IC501-3



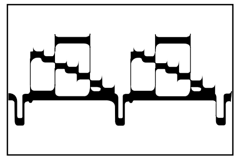
REC 0.64 Vp-p
20 mV/20 µsec/DIV

WF3 IC501-14



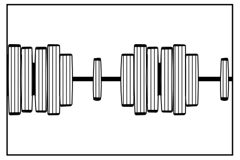
REC 1.0 Vp-p
20 mV/20 µsec/DIV

WF4 IC501-15



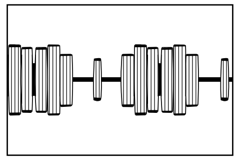
REC/PB 2.0 Vp-p
50 mV/20 µsec/DIV

WF5-1 IC501-17



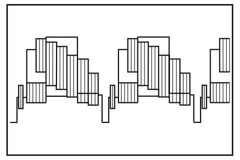
REC 1.3 Vp-p
50 mV/20 µsec/DIV

WF5-2 IC501-17



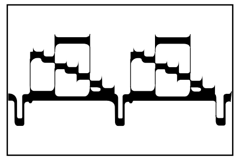
PB 1.2 Vp-p
50 mV/20 µsec/DIV

WF6 IC501-19



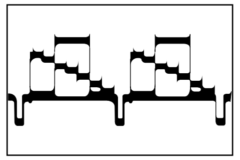
REC/PB 2.1 Vp-p
50 mV/20 µsec/DIV

WF7 IC501-29



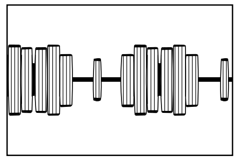
REC/PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF8 IC501-31



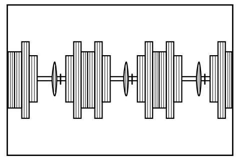
PB 0.5 Vp-p
10 mV/20 µsec/DIV

WF9 IC501-33



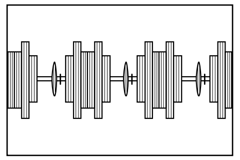
REC 0.64 Vp-p
20 mV/20 µsec/DIV

WF10-1 IC501-42



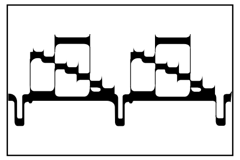
REC 0.52 Vp-p
20 mV/20 µsec/DIV

WF10-2 IC501-42



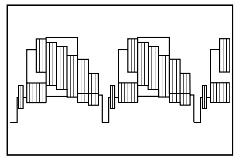
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF11 IC501-43



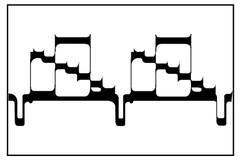
REC/PB 0.76 Vp-p
20 mV/20 µsec/DIV

WF12-1 IC501-45



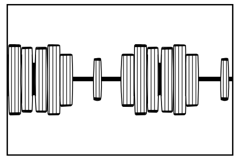
REC 1.7 Vp-p
50 mV/20 µsec/DIV

WF12-2 IC501-45



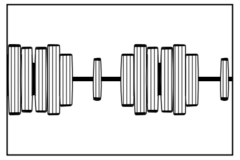
REC/PB 1.7 Vp-p
50 mV/20 µsec/DIV

WF13 IC501-47



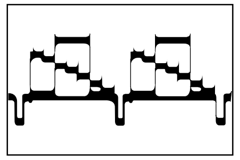
PB 1.3 Vp-p
50 mV/20 µsec/DIV

WF14 IC501-48



PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF15 IC501-56

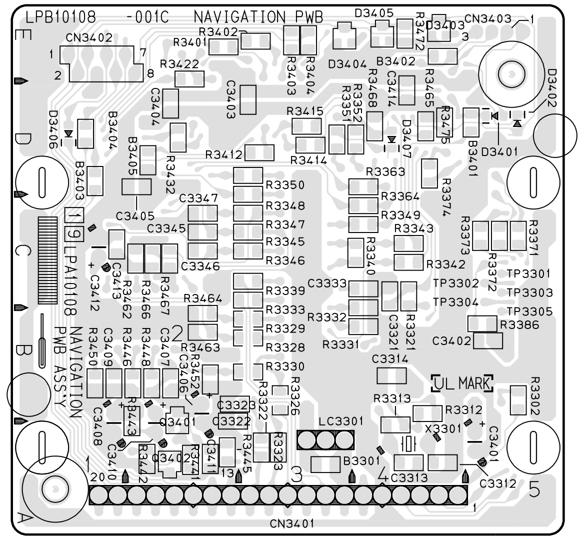


PB 2.1 Vp-p
50 mV/20 µsec/DIV

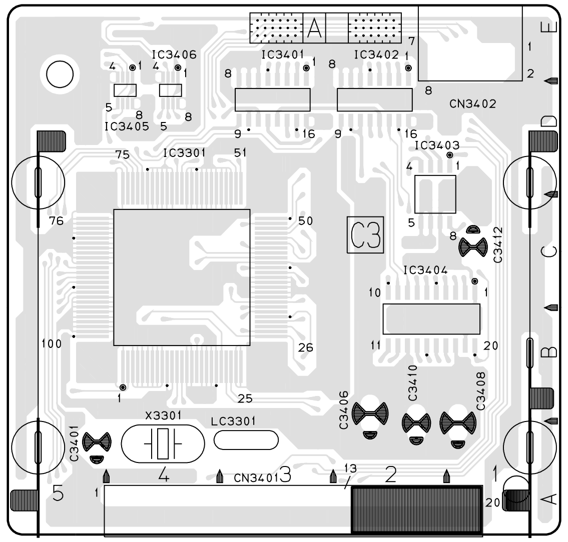
4.20 NAVIGATION CIRCUIT BOARD

<19> NAVIGATION
LPB10108-001C

— FOIL SIDE(B) —


LPB10108 -001C NAVIGATION PWB
CN3402
CN3401
LC3301
X3301
B3301
UL MARK
TP3301
TP3302
TP3303
TP3304
TP3305
LPA10108 NAVIGATION PWB ASSY
A
B
C
D
E
1
2
3
4
5

— COMPONENT SIDE(A) —


IC3301
IC3401
IC3402
IC3403
IC3404
IC3405
IC3406
CN3402
CN3401
X3301
LC3301
A
B
C
D
E
1
2
3
4
5

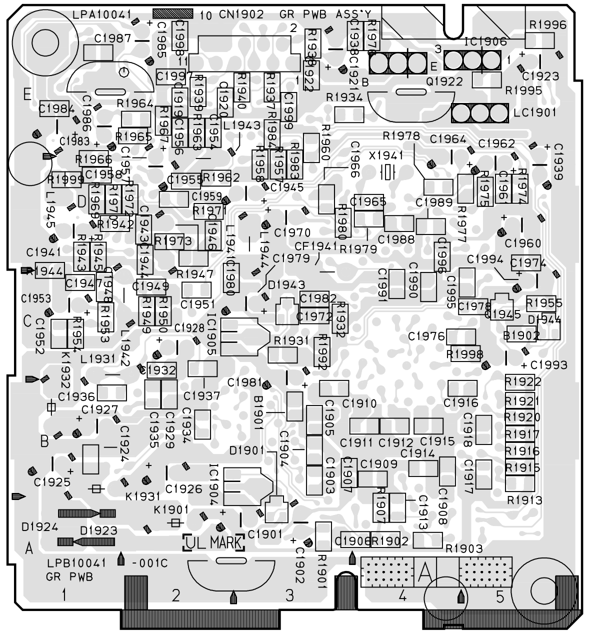
COMPONENT PARTS LOCATION GUIDE <NAVIGATION>

REF.NO.	LOCATION		
CAPACITOR			
C3312	B	C	4A
C3313	B	C	4A
C3314	B	C	4B
C3321	B	C	4C
C3322	B	C	2B
C3323	B	C	2B
C3333	B	C	4C
C3345	B	C	2C
C3346	B	C	2C
C3347	B	C	2C
C3401	A	D	5A
C3402	B	C	5B
C3403	B	C	3D
C3404	B	C	2D
C3405	B	C	2D
C3406	A	D	2B
C3407	B	C	2B
C3408	A	D	1B
C3409	B	C	1B
C3410	A	D	2B
C3411	B	C	2A
C3412	A	D	1C
C3413	B	C	1C
C3414	B	C	4D
CONNECTOR			
CN3401	A	D	4A
CN3402	A	D	1E
DIODE			
D3401	B	C	5D
D3402	B	C	5D
D3403	B	C	4E
D3404	B	C	3E
D3405	B	C	4E
D3406	B	C	1D
D3407	B	C	4D
IC			
IC3301	A	C	4C
IC3401	A	C	3D
IC3402	A	C	2D
IC3403	A	C	2D
IC3404	A	C	2B
IC3405	A	C	4D
IC3406	A	C	4D
TRANSISTOR			
Q3401	B	C	2B
Q3402	B	C	2A
RESISTOR			
R3302	B	C	5B
R3312	B	C	4B
R3313	B	C	4A
R3321	B	C	4C
R3322	B	C	3A
R3323	B	C	3A
R3326	B	C	3B
R3328	B	C	3B
R3329	B	C	3B
R3330	B	C	3B
R3331	B	C	4B
R3332	B	C	4C
R3333	B	C	3C
R3339	B	C	3C
R3340	B	C	4C
R3342	B	C	4C
R3343	B	C	4C
R3345	B	C	3C
R3346	B	C	3C
R3347	B	C	3C
R3348	B	C	3D
R3349	B	C	4C
R3350	B	C	3D
R3351	B	C	3D
R3352	B	C	4D
R3363	B	C	4D
R3364	B	C	4C
R3371	B	C	5C
R3372	B	C	5C
R3373	B	C	5C
R3374	B	C	4D
R3386	B	C	5B
R3401	B	C	2E
R3402	B	C	3E
R3403	B	C	3E
R3404	B	C	3E
R3412	B	C	3D
R3414	B	C	3D
R3415	B	C	3D
R3422	B	C	2E
R3432	B	C	2D
R3441	B	C	2A
R3442	B	C	2A
R3443	B	C	2B
R3445	B	C	2A
R3446	B	C	2B
R3448	B	C	2B
R3450	B	C	1B
R3452	B	C	2B
R3462	B	C	2C
R3463	B	C	2B
R3464	B	C	2B
R3465	B	C	4D
R3466	B	C	2C
R3467	B	C	2C
R3468	B	C	4D
R3472	B	C	4E
R3475	B	C	4D
TESTPOINT			
TP3301	B	C	5C
TP3302	B	C	5C
TP3303	B	C	5C
TP3304	B	C	5C
TP3305	B	C	5B
OTHER			
LC3301	A	D	3A
X3301	A	D	4A

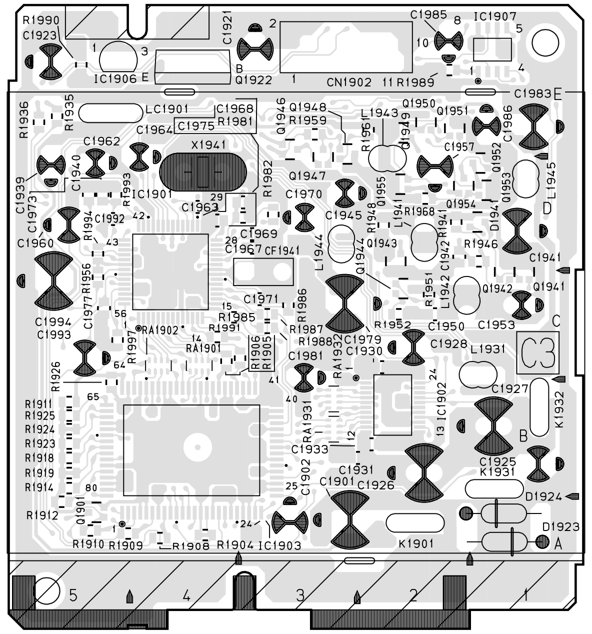
4.21 GR CIRCUIT BOARD

<96>GR
LPB10041-001C

— FOIL SIDE(B) —


LPA10041
CN1902 GR PWB ASS'Y
IC1906
Q1922
LC1901
X1941
K1931
K1901
D1924
D1923
UL MARK
LPB10041 -001C
GR PWB
A
B
C
D
E
1
2
3
4
5

— COMPONENT SIDE(A) —

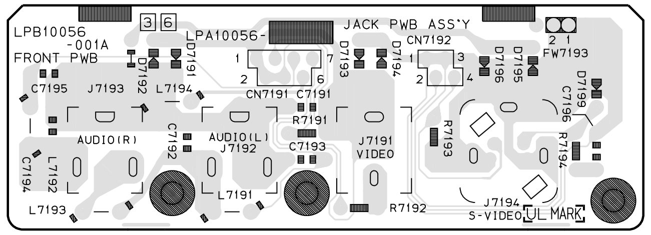

IC1907
IC1906
Q1922
CN1902
LC1901
X1941
IC1901
IC1903
RA1901
RA1902
RA1931
K1901
K1931
K1932
D1924
D1923
A
B
C
D
E
1
2
3
4
5

COMPONENT PARTS LOCATION GUIDE <GR>

REF.NO.	LOCATION		
CAPACITOR			
C1901	A	D	2B
C1902	A	D	3A
C1903	B	C	3B
C1904	B	C	3B
C1905	B	C	3B
C1906	B	C	3A
C1907	B	C	3B
C1908	B	C	4B
C1909	B	C	3B
C1910	B	C	3C
C1911	B	C	3B
C1912	B	C	4B
C1913	B	C	4B
C1914	B	C	4B
C1915	B	C	4B
C1916	B	C	4C
C1917	B	C	4B
C1918	B	C	4B
C1919	B	C	2E
C1920	B	C	2E
C1921	A	D	3F
C1922	B	C	3E
C1923	A	D	5F
C1924	B	C	1B
C1925	A	D	1B
C1926	A	D	2B
C1927	A	D	1B
C1928	A	D	2C
C1929	B	C	2C
C1930	A	C	2C
C1931	A	C	2B
C1932	B	C	2C
C1933	A	C	2B
C1934	B	C	2B
C1935	B	C	2C
C1936	B	C	1C
C1937	B	C	2C
C1938	B	C	3F
C1939	A	D	5E
C1940	A	C	5D
C1941	A	D	1D
C1942	A	C	1D
C1943	B	C	1D
C1944	B	C	1D
C1945	A	D	2D
C1946	B	C	2D
C1947	B	C	1D
C1948	B	C	1D
C1949	B	C	2D
C1950	A	C	2C
C1951	B	C	2D
C1952	B	C	1C
C1953	A	D	1C
C1954	B	C	2E
C1955	B	C	2E
C1956	B	C	2E
C1957	A	D	2E
C1958	B	C	1E
C1959	B	C	2D
C1960	A	D	5D
C1961	B	C	5D
C1962	A	D	5E
C1963	A	C	4D
C1964	A	D	4E
C1965	B	C	3D
C1966	B	C	3D
C1967	A	C	3D
C1968	A	C	3D
C1969	A	C	3D
C1970	A	D	3D
C1971	A	C	3C
C1972	B	C	3C
C1973	A	C	4D
C1974	B	C	5D
C1975	A	C	3D
C1976	B	C	4C
C1977	A	C	4C
C1978	B	C	4C
C1979	A	D	2C
C1980	B	C	2D
C1981	A	D	3C
C1982	B	C	3C
C1983	A	D	1E
C1984	B	C	1E
C1985	A	D	1F
C1986	A	D	1E
C1987	B	C	1F
C1988	B	C	4D
C1989	B	C	4D
C1990	B	C	4D
C1991	B	C	4D
C1992	A	C	4D
C1993	A	D	5C
C1994	A	D	5D
C1995	B	C	4D
C1996	B	C	4D
C1997	B	C	2E
C1998	B	C	2F
C1999	B	C	3E
CONNCTOR			
CN1902	A	D	3F
DIODE			
D1901	B	C	3B
D1923	A	D	1A
D1924	A	D	1B
D1941	A	C	1D
D1943	B	C	3C
D1944	B	C	5C
IC			
IC1901	A	C	4D
IC1902	A	C	2C
IC1903	A	C	4B
IC1904	B	C	2B
IC1905	B	C	2C
IC1906	A	D	5F
IC1907	A	C	1F
COIL			
L1931	A	D	1C
L1941	A	D	2D
L1942	A	D	1C
L1943	A	D	2E
L1944	A	D	2D
L1945	A	D	1D
TRANSISTOR			
Q1901	A	C	5B
Q1922	A	D	4F
Q1941	A	C	1D
Q1942	A	C	1D
Q1943	A	C	2D
Q1944	A	C	2D
Q1945	B	C	5C
Q1946	A	C	3E
Q1947	A	C	3E
Q1948	A	C	2E
Q1949	A	C	2E
Q1950	A	C	2E
Q1951	A	C	1E
Q1952	A	C	1E
Q1953	A	C	1D
Q1954	A	C	1D
Q1955	A	C	2D
RESISTOR			
R1901	B	C	3A
R1902	B	C	4A
R1903	B	C	4A
R1904	A	C	4A
R1905	A	C	3C
R1906	A	C	3C
R1907	B	C	4B
R1908	A	C	4A
R1909	A	C	4A
R1910	A	C	5A
R1911	A	C	5C
R1912	A	C	5B
R1913	B	C	5B
R1914	A	C	5B
R1915	B	C	5B
R1916	B	C	5B
R1917	B	C	5B
R1918	A	C	5B
R1919	A	C	5B
R1920	B	C	5B
R1921	B	C	5C
R1922	B	C	5C
R1923	A	C	5B
R1924	A	C	5B
R1925	A	C	5B
R1926	A	C	4C
R1931	B	C	3C
R1932	B	C	3C
R1934	B	C	3E
R1935	A	C	5E
R1936	A	C	5E
R1937	B	C	3E
R1938	B	C	3F
R1939	B	C	2E
R1940	B	C	2E
R1941	A	C	1D
R1942	B	C	1D
R1943	B	C	1D
R1944	B	C	1D
R1945	B	C	1D
R1946	A	C	1D
R1947	B	C	2D
R1948	A	C	2D
R1949	B	C	1C
R1950	B	C	2C
R1951	A	C	2D
R1952	A	C	2C
R1953	B	C	1C
R1954	B	C	1C
R1955	B	C	5C
R1956	A	C	5D
R1957	B	C	3E
R1958	B	C	2E
R1959	A	C	3E
R1960	B	C	3E
R1961	A	C	2E
R1962	B	C	2E
R1963	B	C	2E
R1964	B	C	1E
R1965	B	C	1E
R1966	B	C	1E
R1967	B	C	2E
R1968	A	C	2D
R1969	B	C	1D
R1970	B	C	1D
R1971	B	C	2D
R1972	B	C	1D
R1973	B	C	2D
R1974	B	C	5D
R1975	B	C	4D
R1976	B	C	3F
R1977	B	C	4D
R1978	B	C	4D
R1979	B	C	3D
R1980	B	C	3D
R1981	A	C	3D
R1982	A	C	3D
R1983	B	C	3E
R1984	B	C	3E
R1985	A	C	3C
R1986	A	C	3C
R1987	A	C	3C
R1988	A	C	3C
R1989	A	C	1E
R1990	A	C	5F
R1991	A	C	3C
R1992	B	C	3C
R1993	A	C	4D
R1994	A	C	5D
R1995	B	C	4E
R1996	B	C	5F
R1997	A	C	4C
R1998	B	C	4C
R1999	B	C	1E
OTHER			
CF1941	A	D	3D
K1901	A	D	2B
K1931	A	D	1B
K1932	A	D	1C
LC1901	A	D	5E
RA1901	A	C	4C
RA1902	A	C	4C
RA1931	A	C	2B
RA1932	A	C	2C
X1941	A	D	4E

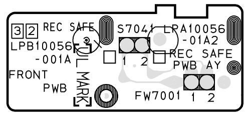
4.22 SW/DISPLAY, REC SAFETY, JACK AND JOG CIRCUIT BOARDS

<36>JACK
LPB10056-001A



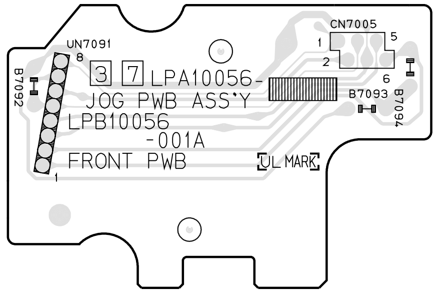
LPB10056 -001A
FRONT PWB
36
LPA10056-
JACK PWB ASS'Y
CN7192
FW7193
D7191
D7192
D7193
D7194
D7195
D7196
D7199
C7195
J7193
L7194
CN7191
C7191
R7191
C7196
AUDIO(R)
C7192
AUDIO(L)
J7192
C7193
J7191
VIDEO
R7193
R7194
C7194
L7192
L7191
L7193
R7192
J7194
S-VIDEO
UL MARK

<32>REC SAFETY
LPB10056-001A



32
REC SAFE
LPB10056
-001A
FRONT
PWB
S7041
LPA10056
-01A2
REC SAFE
PWB AY
FW7001
UL MARK

<37>JOG
LPB10056-001A

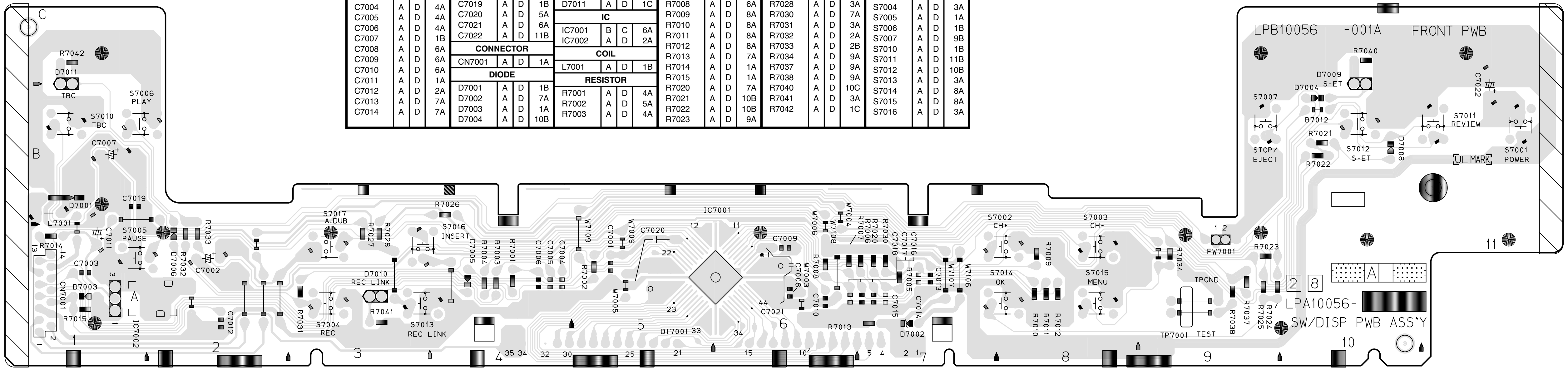


UN7091
CN7005
B7092
37
LPA10056-
JOG PWB ASS'Y
LPB10056
-001A
FRONT PWB
UL MARK
B7093
B7094

COMPONENT PARTS LOCATION GUIDE <SW/DISPLAY>

REF.NO.	LOCATION		
CAPACITOR			
C7001	A	D	5A
C7002	A	D	2A
C7003	A	D	1A
C7004	A	D	4A
C7005	A	D	4A
C7006	A	D	4A
C7007	A	D	1B
C7008	A	D	6A
C7009	A	D	6A
C7010	A	D	6A
C7011	A	D	1A
C7012	A	D	2A
C7013	A	D	7A
C7014	A	D	7A
C7015	A	D	7A
C7016	A	D	7A
C7017	A	D	7A
C7018	A	D	6A
C7019	A	D	1B
C7020	A	D	5A
C7021	A	D	6A
C7022	A	D	11B
CONNECTOR			
CN7001	A	D	1A
DIODE			
D7001	A	D	1B
D7002	A	D	7A
D7003	A	D	1A
D7004	A	D	10B
D7005	A	D	4A
D7006	A	D	2A
D7008	A	D	10B
D7010	A	D	3A
D7011	A	D	1C
IC			
IC7001	B	C	6A
IC7002	A	D	2A
COIL			
L7001	A	D	1B
RESISTOR			
R7001	A	D	4A
R7002	A	D	5A
R7003	A	D	4A
R7004	A	D	4A
R7005	A	D	7A
R7006	A	D	7A
R7007	A	D	6A
R7008	A	D	6A
R7009	A	D	8A
R7010	A	D	8A
R7011	A	D	8A
R7012	A	D	8A
R7013	A	D	7A
R7014	A	D	1A
R7015	A	D	1A
R7020	A	D	7A
R7021	A	D	10B
R7022	A	D	10B
R7023	A	D	9A
R7024	A	D	9A
R7025	A	D	9A
R7026	A	D	4B
R7027	A	D	3B
R7028	A	D	3A
R7030	A	D	7A
R7031	A	D	3A
R7032	A	D	2A
R7033	A	D	2B
R7034	A	D	9A
R7037	A	D	9A
R7038	A	D	9A
R7040	A	D	10C
R7041	A	D	3A
R7042	A	D	1C
SWITCH			
S7001	A	D	11B
S7002	A	D	8A
S7003	A	D	8A
S7004	A	D	3A
S7005	A	D	1A
S7006	A	D	1B
S7007	A	D	9B
S7010	A	D	1B
S7011	A	D	11B
S7012	A	D	10B
S7013	A	D	3A
S7014	A	D	8A
S7015	A	D	8A
S7016	A	D	3A

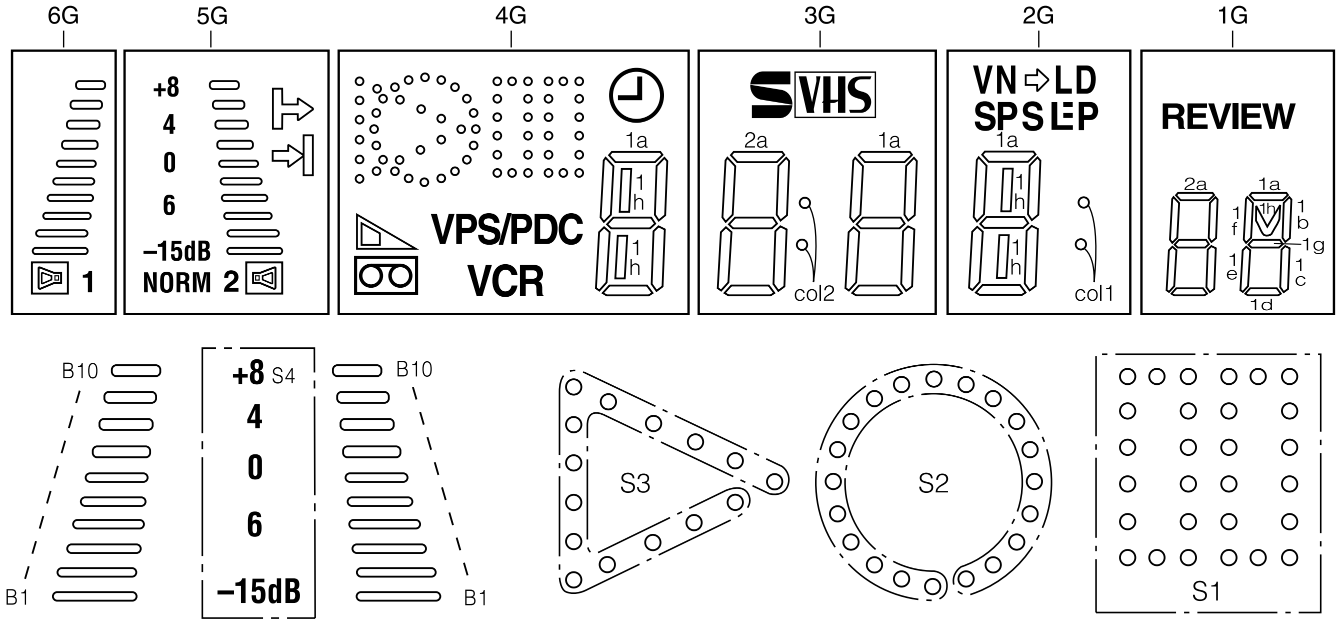
<28>SW/DISPLAY
LPB10056-001A



C
B
A
R7042
D7011
TBC
S7006
PLAY
S7010
TBC
C7007
D7001
C7019
L7001
R7014
C7011
S7005
PAUSE
R7033
C7003
D7003
CN7001
R7015
IC7002
C7002
R7032
D7006
C7012
S7017
A.DUB
R7027
R7028
R7026
S7016
INSERT
D7005
R7004
R7003
R7001
C7006
C7005
C7004
W7109
C7001
W7009
C7020
IC7001
D7010
REC LINK
R7041
S7004
REC
S7013
REC LINK
R7031
W7005
R7002
C7009
C7021
C7010
W7006
W7108
W7003
C7008
R7008
W7004
R7006
R7007
R7020
C7018
C7017
C7016
R7005
C7013
C7015
C7014
W7107
W7106
R7013
D7002
S7002
CH+
S7003
CH-
R7009
S7014
OK
S7015
MENU
R7010
R7011
R7012
R7034
FW7001
TPGND
TP7001 TEST
R7038
R7037
R7023
R7024
R7025
28
LPA10056-
SW/DISP PWB ASS'Y
LPB10056 -001A FRONT PWB
R7040
D7009
S-ET
D7004
C7022
S7007
S7011
REVIEW
B7012
R7021
STOP/
EJECT
R7022
S7012
S-ET
D7008
UL MARK
S7001
POWER
1
2
3
4
5
6
7
8
9
10
11

4.23 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT


6G
5G
4G
3G
2G
1G
+8
4
0
6
–15dB
NORM
1
2
VPS/PDC
VCR
1a
1h
SVHS
2a
1a
col2
VN⇨LD
SPS LP
col1
REVIEW
2a
1a
f
b
1g
e
c
1d
B10
B1
+8 S4
–15dB
S3
S2
S1

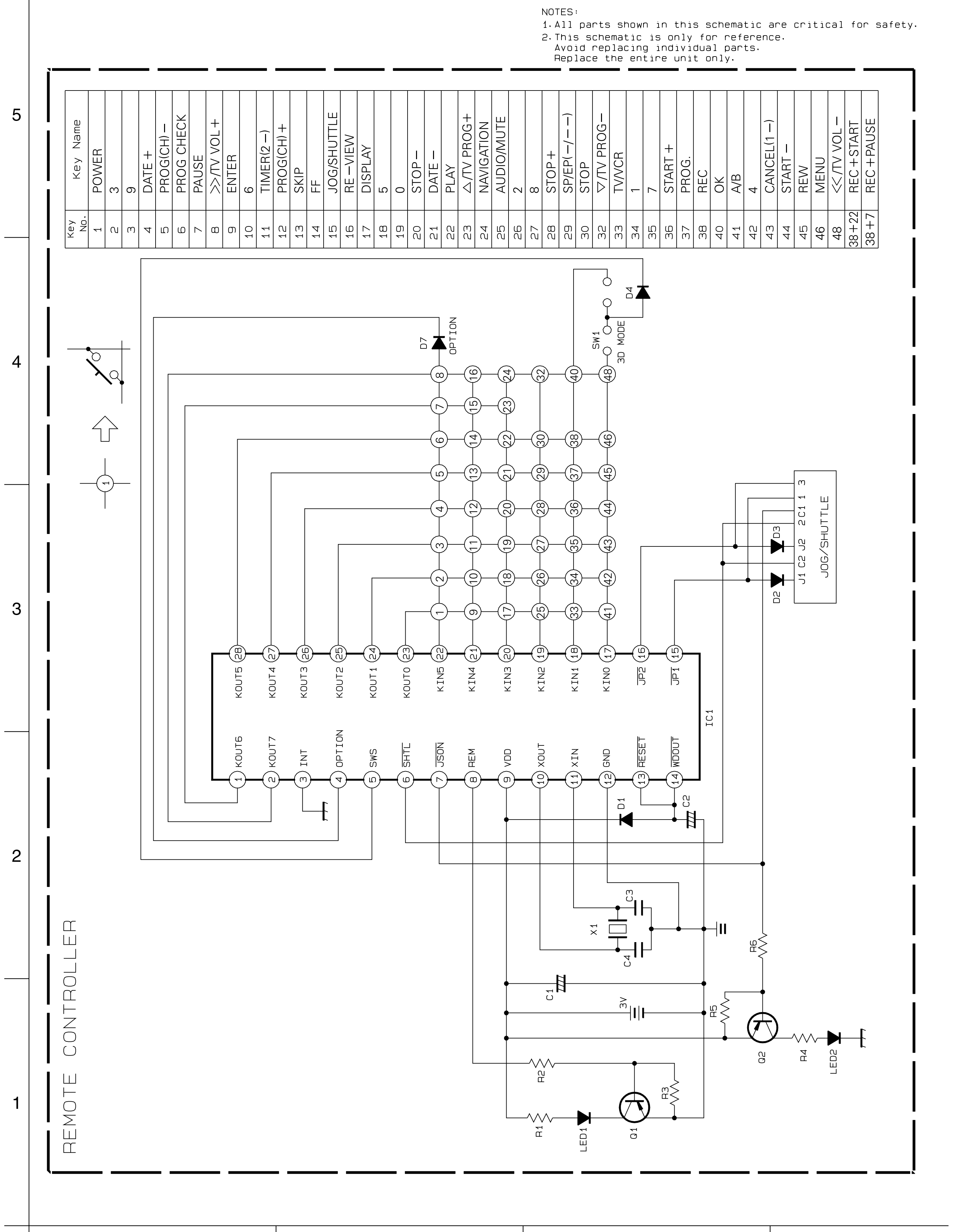
(6G, 5G)

(4G)

ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	⇨	S2	1a	1a	1a
P 2	—	⇨|	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	◷	1c	1c	1c
P 6	▣	▣	◺	1e	1e	1e
P 7	B10	B10	▭	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	: (SEP)	2d
P16	B1	B1	1h	SVHS	LP(SEP)	REVIEW

4.24 REMOTE CONTROL SCHEMATIC DIAGRAM



NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

Key No.	Key Name
1	POWER
2	3
3	9
4	DATE +
5	PROG(CH) –
6	PROG CHECK
7	PAUSE
8	>>/TV VOL +
9	ENTER
10	6
11	TIMER(2 –)
12	PROG(CH) +
13	SKIP
14	FF
15	JOG/SHUTTLE
16	RE –VIEW
17	DISPLAY
18	5
19	0
20	STOP –
21	DATE –
22	PLAY
23	△/TV PROG+
24	NAVIGATION
25	AUDIO/MUTE
26	2
27	8
28	STOP +
29	SP/EP(–/– –)
30	STOP
32	▽/TV PROG–
33	TV/VCR
34	1
35	7
36	START +
37	PROG.
38	REC
40	OK
41	A/B
42	4
43	CANCEL(1 –)
44	START –
45	REW
46	MENU
48	<</TV VOL –
38+22	REC +START
38+7	REC +PAUSE

5
4
3
2
1
A
B
C
D
REMOTE CONTROLLER
D7
OPTION
D4
SW1
3D MODE
JOG/SHUTTLE
J1 C2 J2 2C1 1 3
D3
D2
IC1
KOUT5
KOUT4
KOUT3
KOUT2
KOUT1
KOUT0
KIN5
KIN4
KIN3
KIN2
KIN1
KIN0
JP2
JP1
KOUT6
KOUT7
INT
OPTION
SWS
SHTL
JSON
REM
VDD
XOUT
XIN
GND
RESET
WDOUT
D1
C2
C3
X1
C4
C1
3V
R6
R5
Q2
R4
LED2
R2
R3
Q1
R1
LED1

4.25 VOLTAGE CHARTS

<VIDEO/AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	4.4	2.2
2	2.9	2.9
3	2.5	2.5
4	1.9	1.6
5	1.9	1.6
6	2.4	2.1
7	1.5	0.9
8	0	0
9	2.6	3.1
10	3.0	3.0
11	3.0	3.0
12	2.8	2.6
13	3.0	3.0
14	3.7	2.4
15	0	0
16	2.8	2.8
17	1.9	1.9
18	2.8	2.8
19	0	1.8
20	2.8	2.8
21	1.6	1.9
22	2.8	2.8
23	3.1	2.9
24	5.0	5.0
25	0.4	0.4
26	0	0
27	1.3	2.3
28	2.8	2.4
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.7	2.7
33	5.0	5.0
34	2.7	2.2
35	5.0	5.0
36	2.7	2.5
37	2.3	2.1
38	0.2	0.2
39	1.2	1.2
40	-	-
41	2.5	2.5
42	-	-
43	0	0
44	2.2	2.2
45	4.6	4.6
46	4.6	4.6
47	3.0	3.0
48	2.5	2.5
49	5.0	5.0
50	2.5	2.5
51	2.8	2.8
52	2.3	2.3
53	2.3	2.3
54	2.4	2.4
55	2.1	2.1
56	0.5	0.5
57	2.3	1.8
58	8.2	8.2
59	4.8	4.6
60	4.6	4.6
61	4.1	3.8
62	4.1	3.7
63	2.3	2.3
64	2.3	2.3
65	0.6	2.7
66	3.2	3.2
67	3.3	3.3
68	3.3	3.3
69	2.3	2.3
70	0	0
71	0.3	0.3
72	0.2	0.2
73	0.2	0.2
74	2.3	2.3
75	2.7	2.7
76	0	0
77	2.7	2.7
78	0.3	0.3
79	0.2	0.2
80	0.2	0.2
81	2.3	2.3
82	0.8	0.8
83	0	0
84	2.3	2.3
85	2.3	2.3
86	2.4	2.4
87	1.6	1.6
88	2.3	2.5
89	2.3	2.3
90	2.3	2.3
91	0	0
92	0	0
93	0	2.5
94	0	1.0
95	0	0
96	2.4	2.4
97	2.7	2.4
98	2.5	2.4
99	5.0	5.0
100	5.0	5.0
101	0	0
102	0	0
103	0	0
104	2.3	2.3
105	2.5	2.3
106	2.4	2.3
107	5.0	5.0
108	0	0
109	0	0
110	0	0
111	0	2.4
112	2.5	2.5
113	0.5	0.5
114	0	0
115	2.5	2.5
116	2.5	2.5
117	2.5	2.5
118	0	0
119	2.5	2.5
120	0	0
Q5		
E	5.0	2.8
C	0	0
B	4.4	2.1
Q7		
E	1.6	1.6
C	3.4	3.4
B	2.3	2.3
Q8		
E	2.8	2.8
C	5.0	5.0
B	3.4	3.4
Q9		
E	3.4	3.4
C	0	0
B	2.8	2.8
Q12		
E	2.1	2.1
C	0	0
B	1.4	1.4
Q17		
E	0	0
C	0	0
B	4.8	4.8
Q21		
E	2.3	2.3
C	0	0
B	1.7	1.7
Q24		
E	2.8	2.8
C	0	0
B	2.2	2.2
Q38		
E	3.3	3.3
C	5.0	5.0
B	4.0	4.0
Q401		
E	9.4	0
C	0	0
B	8.9	0
Q402		
E	7.3	0
C	0	0
B	6.8	0
Q403		
E	0	0
C	0	0
B	4.9	0
Q404		
E	0	0
C	0	11.2
B	9.2	0
Q405		
E	11.1	11.3
C	11.1	0
B	10.4	11.2
Q2001		
E	-16.1	0
C	0	0
B	-22.5	0.7
Q2002		
E	-16.1	0
C	0	0
B	-22.1	0.7
Q2003		
E	5.0	5.0
C	-22.3	5.0
B	5.0	0
Q2004		
E	0	0
C	5.0	0
B	0.6	4.2
Q2052		
E	10.9	11.0
C	10.6	4.0
B	10.1	11.0
Q2053		
E	0	0
C	0	10.9
B	4.8	0
Q2054		
E	10.6	4.0
C	10.5	0.3
B	9.9	4.0
Q2061		
E	0	0
C	7.5	0.3
B	0	0.3
Q2062		
E	10.6	4.0
C	10.5	0.3
B	9.9	4.0
Q2102		
E	0	0
C	0	0
B	4.6	4.6
Q2103		
E	0	0
C	0	0
B	-0.2	-0.2
Q2104		
E	4.9	4.9
C	-0.3	-0.3
B	4.9	4.9
Q2105		
E	0	0
C	4.9	4.9
B	0	0
Q2108		
E	2.0	2.0
C	8.4	8.4
B	2.6	2.6
Q2251		
E	5.0	5.0
C	1.7	1.9
B	5.0	5.0
CN1		
4	0	0
5	0	0
6	0	0
7	0	0
8	2.5	2.3
9	2.5	2.3
10	2.5	2.3
11	2.5	2.3
12	2.7	2.4
13	2.7	2.4
14	2.7	2.4
15	0	0
16	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.3	2.5
7	2.3	2.5
CN2002		
1	0	0
2	0	0
CN2051		
1	7.6	0.2
2	0	0
3	0	0
4	0	0

<AUDIO ERASE>

MODE PIN NO.	REC	PLAY
Q2051	-	-
CN2052		
1	7.6	0.2
2	0	0
3	0	0
4	0	0

<VSC>

MODE PIN NO.	REC	PLAY
IC2501		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	-	-
11	-	-
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	5.0	5.0
19	0	1.4
20	5.0	5.0
21	0	0
22	0	0
23	0	0
24	5.0	5.0
25	5.0	5.0
26	5.0	5.0
27	5.0	5.0
28	5.0	5.0
29	5.0	5.0
30	5.0	5.0
31	5.0	5.0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	5.0	5.0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	2.4	2.4
44	0	0
45	2.5	2.5
46	2.5	2.5
47	2.5	2.5
48	2.5	2.5
49	2.5	2.5
50	2.5	2.5
51	2.5	2.5
52	2.5	2.5
53	5.0	5.0
54	0.6	0.4
55	0	0
56	0	0
57	0	0
58	4.9	4.9
59	5.0	5.0
60	0	0
61	5.0	5.0
62	0	0
63	0	0
64	0	0
Q2501		
E	0	0
C	0	0
B	0.4	0.2
Q2502		
E	0	0
C	0.4	0.2
B	0	0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	-	2.5
2	0	0
3	-	2.5
4	2.4	2.4
5	0	0.4
6	2.5	2.5
7	2.4	2.4
8	2.4	2.4
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	0	2.1
14	4.7	4.7
15	4.3	4.6
16	0.6	2.7
17	0	0
18	0	0
19	3.3	3.3
20	1.1	1.1
21	0	0
22	0	1.0
23	0	0
24	4.8	4.8
25	0	0
26	5.0	5.0
27	5.0	5.0
28	5.0	5.0
29	4.9	4.9
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	1.8
39	4.3	4.3
40	0	0
41	4.9	4.9
42	4.4	4.4
43	0	0
44	0	0
45	4.9	4.9
46	0	0
47	0	0
48	0.2	0.2
49	4.6	4.6
50	4.6	4.6
51	4.9	4.9
52	1.1	1.1
53	4.3	4.3
54	0	-
55	-	-
56	0	0
57	0.3	0
58	5.0	0
59	0.1	0.1
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	-	-
67	-	-
68	0	0
69	-	-
70	5.0	5.0
71	5.0	5.0
72	4.6	4.6
73	0	0
74	0	0
75	4.7	4.7
76	4.5	4.5
77	0	0
78	0	0
79	4.8	4.8
80	0	0
81	5.0	5.0
82	5.0	5.0
83	2.4	2.4
84	0	0
85	0	0
86	4.7	4.7
87	4.9	0
88	5.0	5.0
89	0	0
90	0	0
91	3.0	3.0
92	5.0	5.0
93	0	0
94	5.0	5.0
95	5.0	5.0
96	0	0
97	5.0	5.0
98	0.3	0.3
99	0	2.5
100	2.5	2.5
101	2.8	2.8
102	1.2	1.2
103	5.0	5.0
104	4.8	4.8
105	4.9	4.9
106	4.8	4.8
107	0	0
108	1.5	1.5
109	5.0	5.0
110	0	0
111	0	0
112	2.4	2.4
IC3002		
1	5.0	5.0
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.7	4.7
6	4.7	4.7
7	0	0
8	5.0	5.0
IC3004		
1	11.7	11.7
2	0.4	0.4
3	0	0
4	0.3	0.3
5	11.7	11.7
6	11.7	11.7
7	0	0
8	0	0
9	0	0
IC3501		
1	3.4	3.4
2	0.3	0.3
3	0	0
4	0.3	0.3
5	11.9	11.9
6	11.9	11.9
7	0	0
8	0	0
9	0	0
IC3601		
1	0	0
2	0	0
3	0.2	0.2
4	0	4.0
5	4.7	4.7
6	0	0
7	0	0
8	0	0
9	0	4.0
10	0	0
11	-	-
12	9.2	0
13	0.4	0.4
14	0	0
15	0	0
16	5.0	5.0
IC3651		
1	0	0
2	0	0
3	0.2	0.2
4	5.7	5.7
5	0	0
6	4.6	4.6
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	4.1
13	0	0
14	0	0
15	0	0
16	5.0	5.0
Q3001		
E	0	0
C	11.7	11.7
B	0	0
Q3002		
E	0	0
C	4.7	4.7
Q3003		
E	0	0
C	4.3	4.6
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.0	5.0
C	5.7	5.7
B	5.6	5.6
Q3009		
E	0	0
C	0	0
B	0	0
Q3501		
E	3.4	3.4
C	3.4	3.4
B	4.0	4.0
Q4001		
E	0	0
C	0	0
B	4.9	4.9
Q4003		
E	0	0
C	0	0
B	4.8	4.8
CN3001		
1	11.7	11.7
2	0	0
3	1.4	1.4
4	0	0
5	1.5	1.5
CN3002		
1	0.4	0.4
2	0.4	0.4
CN3003		
1	0	0
2	2.5	2.5
3	2.8	2.8
4	5.1	5.1
5	0	0
6	5.0	5.0
7	-	-
8	10.9	10.9
CN3004		
1	5.0	5.0
2	5.0	5.0
3	0	0
4	0	0
CN3011		
1	5.0	5.0
2	0	0
3	4.9	4.9
4	5.0	5.0
5	4.4	4.4
6	5.0	5.0
7	1.2	1.2
8	4.3	4.3
9	4.9	4.9
10	0	0
11	0	0
12	-18.4	-18.4
13	-14.8	-14.8
14	-27.2	-27.2
CN3012		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.9	4.9
6	0	0
CN3501		
1	0	0
2	0	0
3	0	0
4	5.0	5.0
5	0.3	0.1
6	0.3	0.1

<SW. REG>

MODE PIN NO.	REC	PLAY
IC5101		
1	61.4	59.8
2	-	-
3	0	0
4	-	-
5	-	-
IC5301		
1	5.7	5.7
2	5.1	5.1
3	4.5	4.5
4	0	0
5	11.7	11.7
6	11.0	11.0
7	11.7	11.7
8	5.7	5.7
9	1.3	1.3
10	4.5	4.5
Q5301		
E	21.4	21.4
C	0	0
B	21.4	21.4
Q5302		
E	0	0
C	21.4	21.4
B	0	0
Q5320		
E	26.1	26.1
C	0	0
B	26.1	26.1
Q5321		
E	0	0
C	26.1	26.1
B	0	0
Q5322		
E	5.7	5.7
C	-0.3	-0.3
B	5.7	5.7

<TUNER>

MODE PIN NO.	REC	PLAY
Q6501		
E	0	0
C	0	0
B	4.6	4.6
Q6502		
E	0	0
C	0	0
B	4.6	4.6
Q6551		
E	9.0	9.0
C	10.9	10.9
B	9.7	9.7
CN6701		
1	0	0
2	4.7	4.7
3	4.7	4.7
4	4.6	4.6
5	0	0
6	0	0
7	9.0	9.0
8	0	0
9	2.2	2.2

<CONNECTION>

MODE PIN NO.	REC	PLAY
Q7201		
E	0	0
C	5.0	5.0
B	0	0
CN501		
1	2.1	2.1
2	0	0
3	0.6	2.5
4	5.1	5.1
5	2.1	2.1
6	0.1	5.0
7	3.3	3.3
8	0	0
9	2.9	2.9
10	0	0
11	4.6	4.6
12	4.6	4.6
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	0.4	0.4
CN502		
1	0.2	5.0
2	4.6	4.6
3	4.6	4.6
4	2.1	2.1
5	5.0	5.0
6	5.0	5.0
7	0	0
8	0	0
9	0.6	2.5
10	2.1	2.1
11	3.3	3.3
12	2.9	2.9
13	2.3	2.3
14	0	0
15	0	0
16	2.4	2.0
17	1.4	2.3
18	4.7	4.7
19	2.9	2.9
20	0.2	0.2
21	0	0
22	0	0
23	0.2	0.2
24	0	0
25	2.4	2.4
26	0	0
27	2.5	2.3
28	0	0
29	3.7	2.4
30	2.8	2.8
CN901		
1	0	0
2	0	0
3	0	0
4	0	0
CN902		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
CN903		
1	3.7	3.7
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	0	0
8	0	0
9	0.2	0.2
10	10.9	10.9
11	1.2	1.2
12	5.1	5.1
CN904		
1	0	0
2	4.7	4.7
3	5.0	5.0
4	0	0
5	3.1	3.1
6	4.3	4.3
7	1.2	1.2
8	4.9	4.9
9	5.0	5.0
10	4.3	4.3
11	0	0
12	2.8	2.8
CN905		
1	4.4	4.4
2	4.6	4.6
3	0	0
4	0	0
5	0	0
CN907		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0.3	0.3
9	0	0
10	0	0
CN1901		
1	1.2	1.2
2	0	0
3	2.3	2.3
4	0	0
5	4.6	4.6
6	4.6	4.6
7	0	0
8	0	0
9	3.2	3.2
10	11.1	11.1
11	5.6	5.6
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	5.0	5.0
8	4.8	4.8
9	5.0	5.0
10	4.8	4.8
11	4.4	4.4
12	1.2	1.2
13	5.0	5.0

<3D DIGITAL/4M>

MODE PIN NO.	REC	PLAY
IC1401	-	-
IC1402	-	-
IC1403	-	-
IC1404	-	-
Q1406	-	-
Q1407	-	-
Q1408	-	-
Q1410	-	-
Q1412	-	-
Q1413	-	-
Q1414	-	-
Q1417	-	-
Q1418	-	-
Q1419	-	-
CN1401		
1	2.1	2.1
2	0	0
3	0.6	2.5
4	5.1	5.1
5	2.1	2.1
6	0.1	5.0
7	3.3	3.3
8	0	0
9	2.9	2.9
10	0	0
11	4.6	4.6
12	4.6	4.6
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	2.4	2.4

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC201	-	-
Q203	-	-
Q207	-	-
Q901	-	-
Q903	-	-
Q904	-	-
CN911		
1	0	0
2	3.0	3.0
3	0	0
4	2.4	2.4
5	0	0
6	2.3	2.3
7	0	0
8	0	0
9	0	0
10	-	-
11	0	0
12	0	0
13	0	0
14	0	0
CN912		
1	5.0	5.0
2	4.4	4.4
3	1.1	1.1
4	5.0	5.0
5	0	0
6	0.4	0.4
7	4.9	4.9
8	0	0
CN913		
1	3.7	3.7
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	0	0
8	0	0
9	0.2	0.2
10	10.9	10.9
11	1.2	1.2
12	5.1	5.1
CN914		
1	0	0
2	4.7	4.7
3	5.0	5.0
4	0	0
5	3.1	3.1
6	4.3	4.3
7	1.2	1.2
8	4.9	4.9
9	5.0	5.0
10	4.3	4.3
11	0	0
12	2.8	2.8
CN915		
1	4.4	4.4
2	4.6	4.6
3	0	0
4	0	0
5	0	0
CN917		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0.3	0.3
9	0	0
10	0	0

<DEMODULATOR>

MODE PIN NO.	REC	PLAY
IC1501		
1	9.0	9.0
2	4.5	4.5
3	4.4	4.4
4	4.4	4.4
5	4.5	4.5
6	4.5	4.5
7	4.4	4.4
8	4.4	4.4
9	5.4	5.4
10	3.8	3.8
11	3.0	3.0
12	4.4	4.4
13	4.5	4.5
14	0	0
15	-	-
16	-	-
17	0	0
18	4.4	4.4
19	4.6	4.6
20	4.6	4.6
21	1.3	1.3
22	5.2	5.2
23	5.1	5.1
24	4.4	4.4
25	4.5	4.5
26	4.5	4.5
27	4.5	4.5
28	3.6	3.6
CN1501		
1	0	0
2	4.7	4.7
3	4.7	4.7
4	4.6	4.6
5	0	0
6	0	0
7	9.0	9.0
8	0	0
9	2.2	2.2

<S-SUB>

MODE PIN NO.	REC	PLAY
IC501	-	-
IC502	-	-
CN511		
1	0.2	5.0
2	4.6	4.6
3	4.6	4.6
4	2.1	2.1
5	5.0	5.0
6	5.0	5.0
7	0	0
8	0	0
9	0.6	2.5
10	2.1	2.1
11	3.3	3.3
12	2.9	2.9
13	2.3	2.3
14	0	0
15	0	0
16	2.4	2.0
17	1.4	2.3
18	4.7	4.7
19	2.9	2.9
20	0.2	0.2
21	0	0
22	0	0
23	0.2	0.2
24	0	0
25	2.4	2.4
26	0	0
27	2.5	2.3
28	0	0
29	3.7	2.4
30	2.8	2.8
CN512		
1	0	0
2	3.0	3.0
3	0	0
4	2.4	2.4
5	0	0
6	2.3	2.3
7	0	0
8	0	0
9	0	0
10	-	-
11	0	0
12	0	0
13	0	0
14	0	0

<NAVIGATION>

MODE PIN NO.	REC	PLAY
IC3301	-	-
IC3401		
1	0.4	0.4
2	1.2	1.2
3	5.0	5.0
4	5.0	5.0
5	5.0	5.0
6	0	0
7	0	0
8	0	0
9	4.8	4.8
10	0	0
11	0	0
12	4.4	4.4
13	0	0
14	4.4	4.4
15	1.1	1.1
16	5.0	5.0
IC3402		
1	0.4	0.4
2	5.0	5.0
3	0.4	0.4
4	0.4	0.4
5	0.4	0.4
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	5.0	5.0
13	0.5	0.5
14	5.0	5.0
15	5.0	5.0
16	5.0	5.0
IC3403	-	-
CN3401		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.4	2.4
7	5.0	5.0
8	4.8	4.8
9	5.0	5.0
10	4.8	4.8
11	4.4	4.4
12	1.2	1.2
13	5.0	5.0
CN3402		
1	0	0
2	4.9	4.9
3	0.4	0.4
4	0	0
5	5.0	5.0
6	1.1	1.1
7	4.4	4.4
8	5.0	5.0

<SW/DISPLAY>

MODE PIN NO.	REC	PLAY
IC7001		
1	5.0	5.0
2	2.1	2.3
3	0	0
4	2.1	2.3
5	5.0	5.0
6	5.0	5.0
7	5.0	5.0
8	5.0	5.0
9	5.0	5.0
10	4.8	5.0
11	5.0	5.0
12	4.3	4.3
13	1.2	1.2
14	5.0	5.0
15	4.4	4.4
16	-27.1	-27.1
17	-27.1	-27.1
18	-26.9	-26.9
19	-27.1	-27.1
20	4.6	4.6
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	5.0	5.0
IC7002		
1	5.0	5.0
2	5.0	5.0
3	0	0
CN7001		
1	-27.2	-27.2
2	-14.8	-14.8
3	-18.4	-18.4
4	0	0
5	0	0
6	4.9	4.9
7	4.3	4.3
8	1.2	1.2
9	5.0	5.0
10	4.4	4.4
11	5.0	5.0
12	4.9	4.9
13	0	0
14	5.0	5.0
FW7001		
1	5.0	5.0
2	0	0

<REC SAFETY>

MODE PIN NO.	REC	PLAY
FW7001		
1	5.0	5.0
2	0	0

<JACK>

MODE PIN NO.	REC	PLAY
CN7191		
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
CN7192		
1	0	0
2	0	0
3	0	0
4	0	0

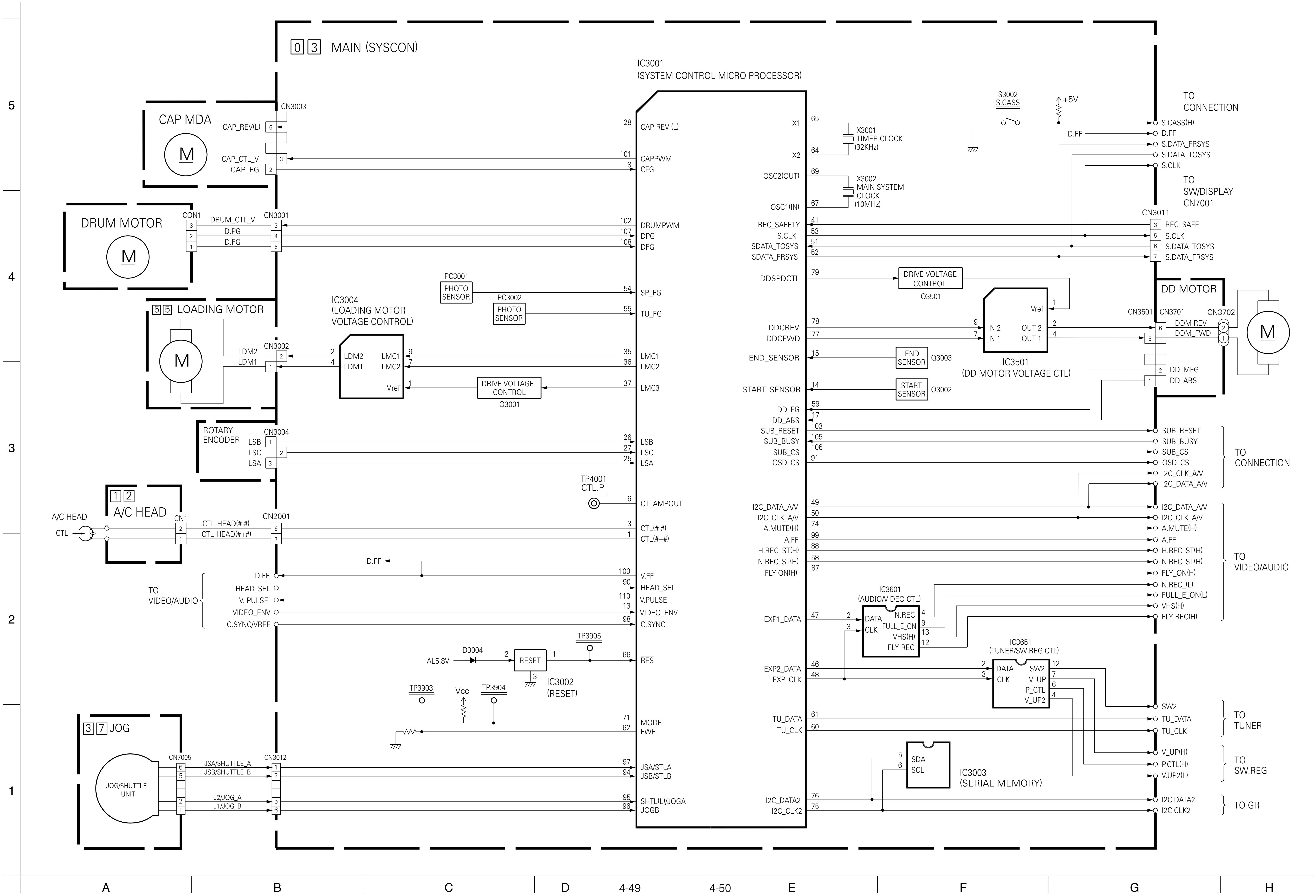
<JOG>

MODE PIN NO.	REC	PLAY
CN7005		
1	0	0
2	4.9	4.9
3	0	0
4	0	0
5	0	0
6	0	0

<GR>

MODE PIN NO.	REC	PLAY
IC1901	-	-
IC1902	-	-
IC1903	-	-
IC1904	-	-
IC1905	-	-
IC1906		
1	2.5	2.5
2	0	0
3	5.5	5.5
IC1907		
1	2.3	2.3
2	3.0	3.0
3	1.9	1.9
4	0	0
5	0	0
6	5.0	5.0
7	1.2	1.2
8	0	0
Q1901	-	-
Q1922		
E	5.0	5.0
C	5.6	5.6
B	5.5	5.5
Q1941	-	-
Q1942	-	-
Q1943	-	-
Q1944	-	-
Q1945	-	-
Q1946	-	-
Q1947	-	-
Q1948	-	-
Q1949	-	-
Q1950	-	-
Q1951	-	-
Q1952	-	-
Q1953	-	-
Q1954	-	-
Q1955	-	-
CN1902		
1	5.6	5.6
2	11.1	11.1
3	3.2	3.2
4	0	0
5	0	0
6	4.6	4.6
7	4.6	4.6
8	0	0
9	2.3	2.3
10	0	0
11	1.2	1.2

4.26 SYSTEM CONTROL BLOCK DIAGRAM


0 3 MAIN (SYSCON)
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)
CAP MDA
M
CN3003
CAP_REV(L)
CAP_CTL_V
CAP_FG
28 CAP REV (L)
101 CAPPWM
8 CFG
DRUM MOTOR
CON1
CN3001
DRUM_CTL_V
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D.FG
102 DRUMPWM
107 DPG
108 DFG
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PHOTO SENSOR
PC3002
PHOTO SENSOR
54 SP_FG
55 TU_FG
5 5 LOADING MOTOR
IC3004
(LOADING MOTOR VOLTAGE CONTROL)
CN3002
LDM2
LDM1
LMC1
LMC2
Vref
DRIVE VOLTAGE CONTROL
Q3001
35 LMC1
36 LMC2
37 LMC3
ROTARY ENCODER
CN3004
LSB
LSC
LSA
26 LSB
27 LSC
25 LSA
TP4001
CTL.P
6 CTLAMPOUT
1 2 A/C HEAD
A/C HEAD
CTL
CN1
CN2001
CTL HEAD(#-#)
CTL HEAD(#+#)
3 CTL(#-#)
1 CTL(#+#)
D.FF
TO VIDEO/AUDIO
D.FF
HEAD_SEL
V. PULSE
VIDEO_ENV
C.SYNC/VREF
100 V.FF
90 HEAD_SEL
110 V.PULSE
13 VIDEO_ENV
98 C.SYNC
D3004
AL5.8V
RESET
IC3002
(RESET)
TP3905
66 RES
TP3903
Vcc
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71 MODE
62 FWE
3 7 JOG
JOG/SHUTTLE UNIT
CN7005
CN3012
JSA/SHUTTLE_A
JSB/SHUTTLE_B
J2/JOG_A
J1/JOG_B
97 JSA/STLA
94 JSB/STLB
95 SHTL(L)/JOGA
96 JOGB
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X2 64
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OSC2(OUT) 69
OSC1(IN) 67
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REC_SAFETY 41
S.CLK 53
SDATA_TOSYS 51
SDATA_FRSYS 52
DDSPDCTL 79
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IC3501
(DD MOTOR VOLTAGE CTL)
Vref
IN 2
IN 1
OUT 2
OUT 1
DDCREV 78
DDCFWD 77
END_SENSOR 15
END SENSOR
Q3003
START_SENSOR 14
START SENSOR
Q3002
DD_FG 59
DD_ABS 17
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SUB_BUSY 105
SUB_CS 106
OSD_CS 91
I2C_DATA_A/V 49
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A.FF 99
H.REC_ST(H) 88
N.REC_ST(H) 58
FLY ON(H) 87
EXP1_DATA 47
IC3601
(AUDIO/VIDEO CTL)
DATA
CLK
N.REC
FULL_E_ON
VHS(H)
FLY REC
EXP2_DATA 46
EXP_CLK 48
IC3651
(TUNER/SW.REG CTL)
DATA
CLK
SW2
V_UP
P_CTL
V_UP2
TU_DATA 61
TU_CLK 60
IC3003
(SERIAL MEMORY)
SDA
SCL
I2C_DATA2 76
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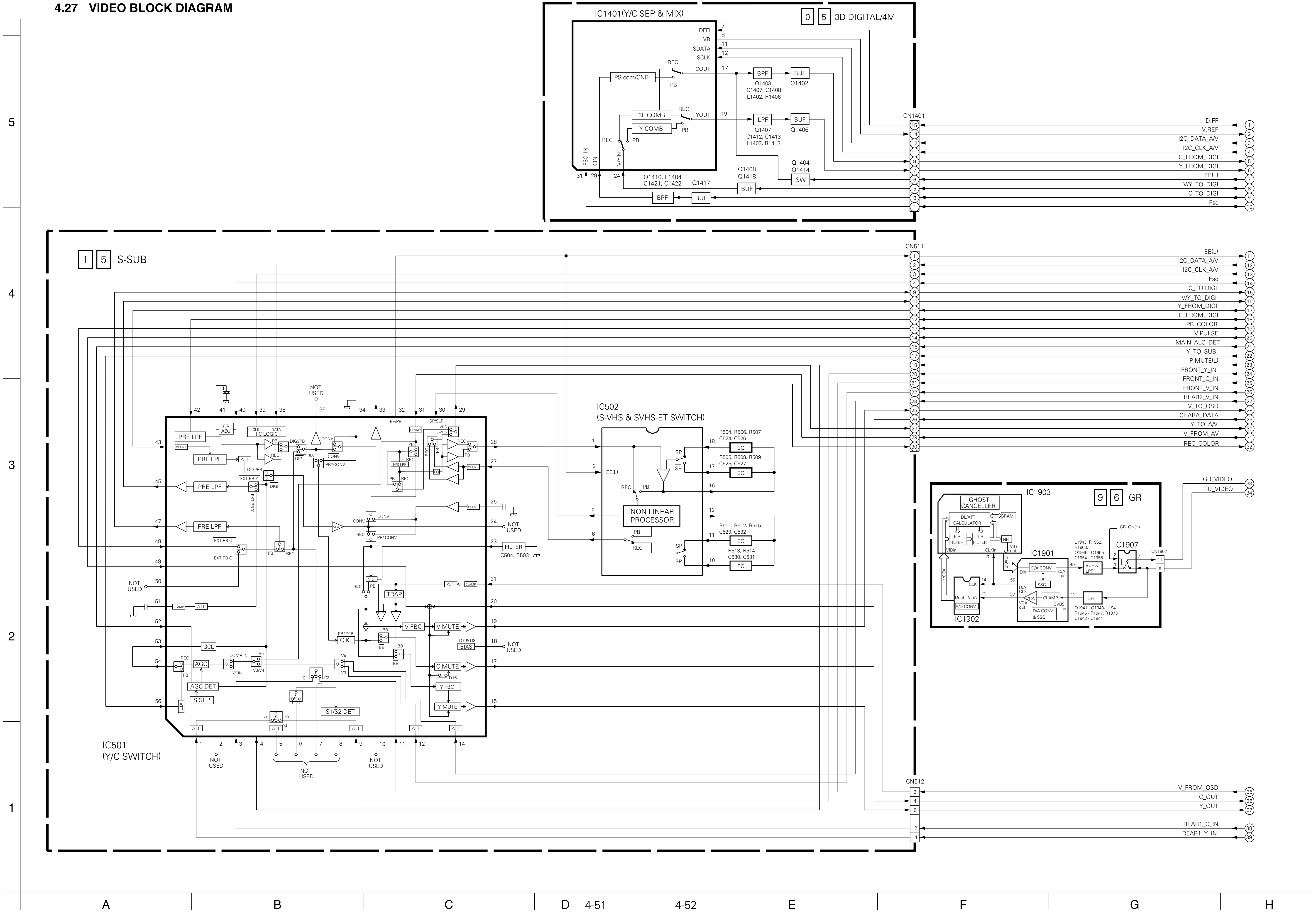
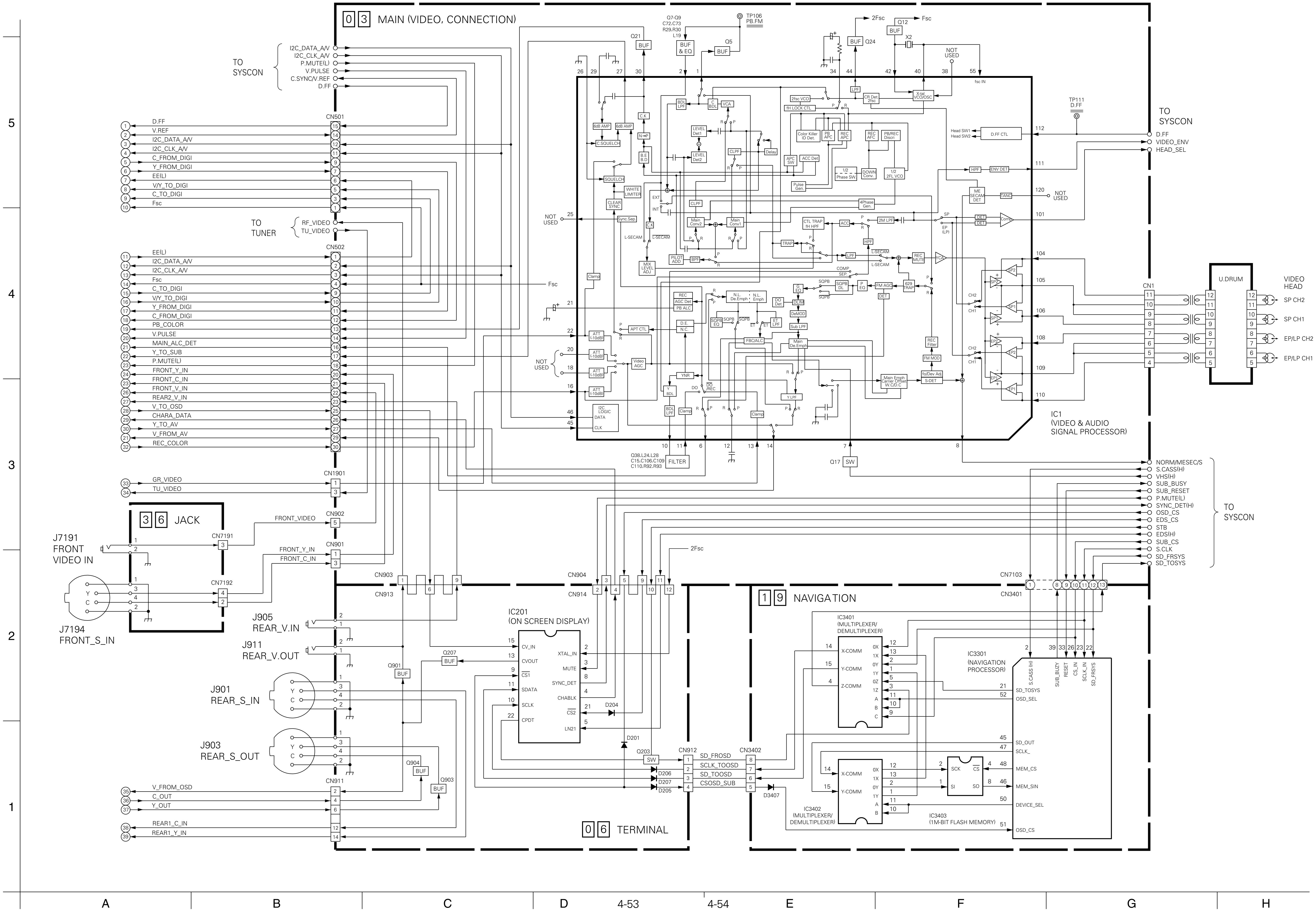
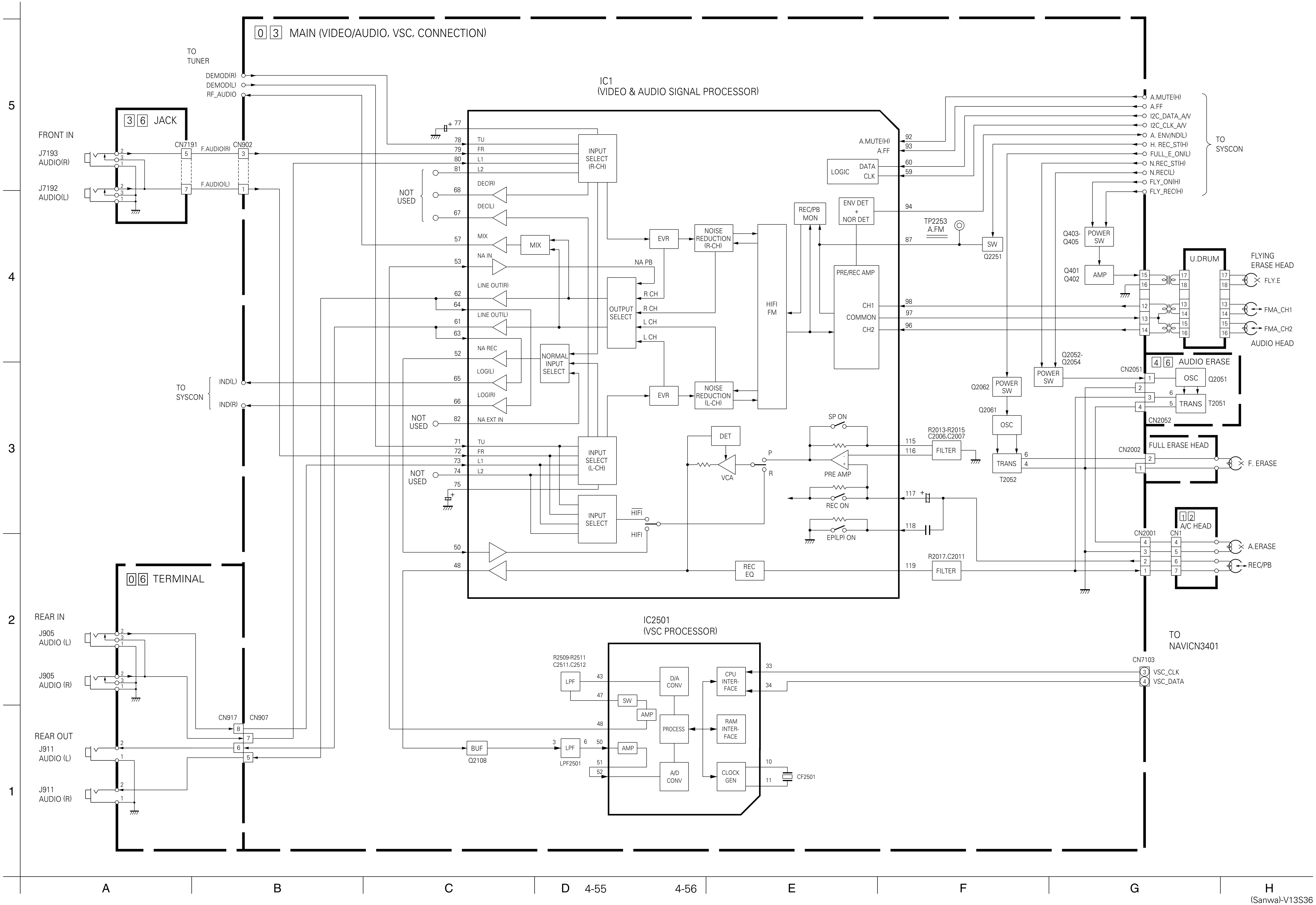
S.CASS
+5V
TO CONNECTION
S.CASS(H)
D.FF
S.DATA_FRSYS
S.DATA_TOSYS
S.CLK
TO SW/DISPLAY CN7001
CN3011
REC_SAFE
S.CLK
S.DATA_TOSYS
S.DATA_FRSYS
DD MOTOR
CN3501
CN3701
CN3702
DDM REV
DDM_FWD
DD_MFG
DD_ABS
M
SUB_RESET
SUB_BUSY
SUB_CS
OSD_CS
I2C_CLK_A/V
I2C_DATA_A/V
TO CONNECTION
I2C_DATA_A/V
I2C_CLK_A/V
A.MUTE(H)
A.FF
H.REC_ST(H)
N.REC_ST(H)
FLY_ON(H)
N.REC_(L)
FULL_E_ON(L)
VHS(H)
FLY REC(H)
TO VIDEO/AUDIO
SW2
TU_DATA
TU_CLK
TO TUNER
V_UP(H)
P.CTL(H)
V.UP2(L)
TO SW.REG
I2C DATA2
I2C CLK2
TO GR
5
4
3
2
1
A
B
C
D
E
F
G
H

4.27 VIDEO BLOCK DIAGRAM


IC1401(Y/C SEP & MIX)
0 5 3D DIGITAL/4M
DFFI
VR
SDATA
SCLK
COUT
YOUT
PS com/CNR
3L COMB
Y COMB
REC
PB
FSC_IN
CIN
V/Y/N
BPF
BUF
LPF
SW
Q1403
C1407, C1408
L1402, R1406
Q1402
Q1407
C1412, C1413
L1403, R1413
Q1406
Q1404
Q1414
Q1408
Q1418
Q1410, L1404
C1421, C1422
Q1417
CN1401
D.FF
V.REF
I2C_DATA_A/V
I2C_CLK_A/V
C_FROM_DIGI
Y_FROM_DIGI
EE(L)
V/Y_TO_DIGI
C_TO_DIGI
Fsc
1 5 S-SUB
CN511
EE(L)
I2C_DATA_A/V
I2C_CLK_A/V
Fsc
C_TO DIGI
V/Y_TO_DIGI
Y_FROM_DIGI
C_FROM_DIGI
PB_COLOR
V.PULSE
MAIN_ALC_DET
Y_TO_SUB
P.MUTE(L)
FRONT_Y_IN
FRONT_C_IN
FRONT_V_IN
REAR2_V_IN
V_TO_OSD
CHARA_DATA
Y_TO_A/V
V_FROM_AV
REC_COLOR
IC502
(S-VHS & SVHS-ET SWITCH)
NON LINEAR PROCESSOR
EQ
SP
R504, R506, R507
C524, C526
R505, R508, R509
C525, C527
R511, R512, R515
C529, C532
R513, R514
C530, C531
IC501
(Y/C SWITCH)
PRE LPF
CR ADJ
CLK DATA
IIC LOGIC
CLAMP
ATT
DIGI/PB
CONV
PB*CONV
DIGI
EXT PB Y
EXT PB C
EE/PB
SP/SLP
VHS
S-VHS
N/S-LPF
VCA
FILTER
C504, R503
N.C.
TRAP
V FBC
V MUTE
C.K.
PB*D15
BB
BIAS
D7 & D8
C MUTE
D16
Y FBC
Y MUTE
GCL
AGC
COMP IN
V5
V3/V4
V4
V3
C1
C2
C3
AGC DET
S.SEP
Y1
Y2
Y3
S1/S2 DET
Y/CIN
NOT USED
CN512
V_FROM_OSD
C_OUT
Y_OUT
REAR1_C_IN
REAR1_Y_IN
IC1903
9 6 GR
GHOST CANCELLER
DUATT CALCULATOR
SRAM
FIR FILTER
IIR FILTER
NR
VIDin
CLKin
VID out
IC1901
D/A CONV
SSG
CLAMP
D/A CONV & SSG
Din
D/A out
VCA out
CVBS in
IC1902
CLK
Dout
VinA
A/D CONV
AD0-7
DA0-9
IC1907
GR_ON(H)
BUF & LPF
LPF
L1943, R1962, R1963,
Q1945 - Q1955
C1954 - C1956
Q1941 - Q1943, L1941
R1945 - R1947, R1973
C1942 - C1944
CN1902
GR_VIDEO
TU_VIDEO
A
B
C
D
E
F
G
H
1
2
3
4
5


03 MAIN (VIDEO, CONNECTION)
TO SYSCON
I2C_DATA_A/V
I2C_CLK_A/V
P.MUTE(L)
V.PULSE
C.SYNC/V.REF
D.FF
CN501
D.FF
V.REF
I2C_DATA_A/V
I2C_CLK_A/V
C_FROM_DIGI
Y_FROM_DIGI
EE(L)
V/Y_TO_DIGI
C_TO_DIGI
Fsc
TO TUNER
RF_VIDEO
TU_VIDEO
CN502
EE(L)
I2C_DATA_A/V
I2C_CLK_A/V
Fsc
C_TO_DIGI
V/Y_TO_DIGI
Y_FROM_DIGI
C_FROM_DIGI
PB_COLOR
V.PULSE
MAIN_ALC_DET
Y_TO_SUB
P.MUTE(L)
FRONT_Y_IN
FRONT_C_IN
FRONT_V_IN
REAR2_V_IN
V_TO_OSD
CHARA_DATA
Y_TO_AV
V_FROM_AV
REC_COLOR
CN1901
GR_VIDEO
TU_VIDEO
36 JACK
J7191 FRONT VIDEO IN
CN7191
CN7192
J7194 FRONT_S_IN
CN902
FRONT_VIDEO
CN901
FRONT_Y_IN
FRONT_C_IN
Q7-Q9 C72,C73 R29,R30 L19
BUF & EQ
TP106 PB.FM
Q5 BUF
Q21 BUF
2Fsc
Q24 BUF
Q12 BUF
Fsc
X2
NOT USED
fsc IN
TP111 D.FF
Head SW1
Head SW2
D.FF CTL
TO SYSCON
D.FF
VIDEO_ENV
HEAD_SEL
HPF
ENV DET
ME SECAM DET
TANC
NOT USED
Comp
SP
EP (LP)
REC MUTE
YCA
L-SECAM
Main Emph Carrier Offset W.C/D.C
fo/Dev Adj S-DET
FM MOD
REC Filter
629 TRAP
FM AGC
DET
6dB AMP
C.SQUELCH
SQUELCH
WHITE LIMITER
CLEAR SYNC
Sync.Sep
NOT USED
C.K
N→P
B.E B.D
BDL LPF
C BDL
VCA
LEVEL Det1
LEVEL Det2
CLPF
Delay
Main Conv2
Main Conv1
EXT
INT
L-SECAM
MIX LEVEL ADJ
PILOT ADD
BPF
Clamp
2fsc VCO
fH LOCK CTL
CR Det 2fsc
X-tal VCO/OSC
Color Killer ID Det.
PB APC
REC APC
REC AFC
PB/REC Discri
APC SW
ACC Det
Pulse Gen.
1/2 Phase SW
DOWN Conv.
1/2 2FL VCO
4Phase Gen.
CTL TRAP fH HPF
ACC
2M LPF
TRAP
LPF
COMP SEP.
REC AGC Det
PB ALC
N.L. De.Emph
N.L. Emph
DO Det
G EQ
SQPB EQ
SQPB DL
P EQ
DLIM
DeMOD
Sub LPF
D.E. N.C.
APT CTL
ATT (-10dB)
Video AGC
NOT USED
FBC/ALC
Main De.Emph
YNR
Y BDL
BDL LPF
Clamp
DO
DO /REC
Y.LPF
I2C LOGIC DATA CLK
SP2
SP1
EP2
EP1
CH1
CH2
CN1
U.DRUM
VIDEO HEAD
SP CH2
SP CH1
EP/LP CH2
EP/LP CH1
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
Q38,L24,L28 C15,C106,C109 C110,R92,R93
FILTER
Q17 SW
NORM/MESEC/S
S.CASS(H)
VHS(H)
SUB_BUSY
SUB_RESET
P.MUTE(L)
SYNC_DET(H)
OSD_CS
EDS_CS
STB
EDS(H)
SUB_CS
S.CLK
SD_FRSYS
SD_TOSYS
TO SYSCON
CN903
CN913
CN904
CN914
2Fsc
CN7103
CN3401
J905 REAR_V.IN
J911 REAR_V.OUT
J901 REAR_S_IN
J903 REAR_S_OUT
Q207 BUF
Q901 BUF
Q904 BUF
Q903 BUF
IC201 (ON SCREEN DISPLAY)
CV_IN
CVOUT
CS1
SDATA
SCLK
CPDT
XTAL_IN
MUTE
SYNC_DET
CHABLK
CS2
LN21
D204
D201
Q203 SW
CN912
SD_FROSD
SCLK_TOOSD
SD_TOOSD
CSOSD_SUB
D206
D207
D205
CN3402
D3407
CN911
V_FROM_OSD
C_OUT
Y_OUT
REAR1_C_IN
REAR1_Y_IN
06 TERMINAL
19 NAVIGATION
IC3401 (MULTIPLEXER/ DEMULTIPLEXER)
X-COMM
Y-COMM
Z-COMM
IC3301 (NAVIGATION PROCESSOR)
S.CASS (H)
SUB_BUZY
RESET
CS_IN
SCLK_IN
SD_FRSYS
SD_TOSYS
OSD_SEL
SD_OUT
SCLK_
MEM_CS
MEM_SIN
DEVICE_SEL
OSD_CS
IC3402 (MULTIPLEXER/ DEMULTIPLEXER)
IC3403 (1M-BIT FLASH MEMORY)
SCK
CS
SI
SO
A B C D E F G H
1 2 3 4 5

4.28 AUDIO BLOCK DIAGRAM



03 MAIN (VIDEO/AUDIO, VSC, CONNECTION)
TO TUNER
DEMOD(R)
DEMOD(L)
RF_AUDIO
IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)
36 JACK
FRONT IN
J7193 AUDIO(R)
J7192 AUDIO(L)
CN7191
CN902
F.AUDIO(R)
F.AUDIO(L)
TU
FR
L1
L2
INPUT SELECT (R-CH)
NOT USED
DEC(R)
DEC(L)
MIX
NA IN
LINE OUT(R)
LINE OUT(L)
NA REC
LOG(L)
LOG(R)
NA EXT IN
NA PB
OUTPUT SELECT
R CH
L CH
NORMAL INPUT SELECT
EVR
NOISE REDUCTION (R-CH)
NOISE REDUCTION (L-CH)
HIFI FM
REC/PB MON
ENV DET + NOR DET
PRE/REC AMP
CH1
COMMON
CH2
LOGIC
DATA
CLK
A.MUTE(H)
A.FF
TP2253 A.FM
TO SYSCON
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IND(R)
INPUT SELECT (L-CH)
INPUT SELECT
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DET
VCA
P
R
SP ON
PRE AMP
REC ON
EP(LP) ON
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A.FF
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I2C_CLK_A/V
A. ENV/ND(L)
H. REC_ST(H)
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N.REC_ST(H)
N.REC(L)
FLY_ON(H)
FLY_REC(H)
TO SYSCON
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Q2251
Q403-Q405
POWER SW
Q401 Q402
AMP
U.DRUM
FLYING ERASE HEAD
FLY.E
FMA_CH1
FMA_CH2
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Q2052-Q2054
POWER SW
Q2062
POWER SW
Q2061
OSC
TRANS
T2052
46 AUDIO ERASE
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OSC
Q2051
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T2051
CN2052
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CN2002
F. ERASE
12 A/C HEAD
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CN1
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J905 AUDIO (R)
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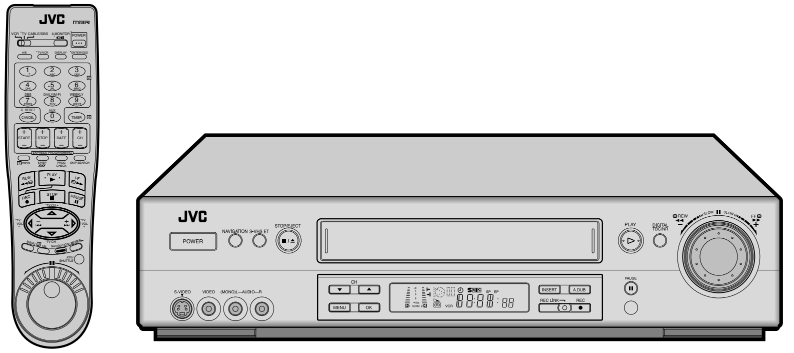
J911 AUDIO (R)
CN917
CN907
IC2501 (VSC PROCESSOR)
R2509-R2511 C2511,C2512
LPF
D/A CONV
CPU INTER-FACE
SW
AMP
PROCESS
RAM INTER-FACE
BUF
Q2108
LPF2501
A/D CONV
CLOCK GEN
CF2501
A
B
C
D
E
F
G
H
1
2
3
4
5

JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S9800U



S-VHS Hi-Fi

VCR plus+ ® C3 CABLE BOX CONTROL

Super VHS ET

TIME SCAN

Ghost Reduction Tuner

SPECIFICATIONS

GENERAL

Power requirement	AC 120 V∼ , 60 Hz
Power consumption	
Power on	27 W
Power off	2.6 W
Temperature	
Operating	5°C to 40°C (41°F to 104°F)
Storage	–20°C to 60°C (–4°F to140°F)
Operating position	Horizontal only
Dimensions (W x H x D)	437 mm x 97 mm x 347 mm (17-1/4" x 3-7/8" x 13-11/16")
Weight	4.8 kg (10.6 lbs)
Format	S-VHS/VHS NTSC standard
Maximum recording time	
SP	210 min. with ST-210 video cassette
EP	630 min. with ST-210 video cassette

VIDEO/AUDIO

Signal system	NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording/ Playback system	DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	45 dB
Horizontal resolution	
VHS	230 lines
S-VHS	400 lines
Frequency range	
Normal audio	70 Hz to 10,000 Hz
Hi-Fi audio	20 Hz to 20,000 Hz
Input/Output	RCA connectors (IN x 2, OUT x 1) S-video connectors (IN x 2, OUT x 1)

TUNER

Tuning system	Frequency-synthesized tuner
Channel coverage	
VHF	Channels 2–13
UHF	Channels 14–69
CATV	113 Channels
RF output	Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 Ω, unbalanced

TIMER

Clock reference	Quartz
Program capacity	1-year programmable timer/ 8 programs
Memory backup time	Approx. 3 min.

ACCESSORIES

Provided accessories	Infrared remote control unit, “AA” battery x 2, Audio/video cable, RF cable (F-type), S-video cable (4-pin), S-VHS ET labels, Controller

Specifications shown are for SP mode unless specified otherwise.
E. & O.E. Design and specifications subject to change without notice.

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No. 82805
June 2000

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Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

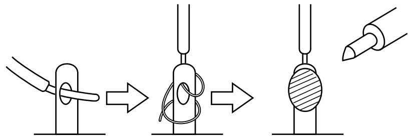


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

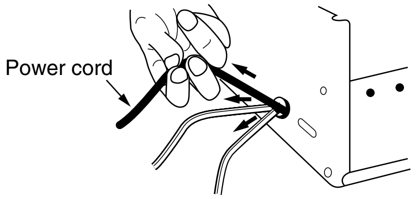


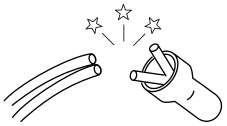
Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.
    Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.
    Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) Connector part number : E03830-001
    2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
    3) Replacement procedure
    (1) Remove the old connector by cutting the wires at a point close to the connector.
    Important : Do not reuse a connector (discard it).



cut close to connector

Fig.3

    (2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

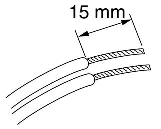


Fig.4

    (3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

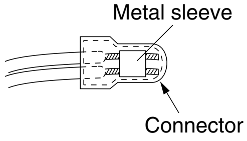


Fig.5

    (4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

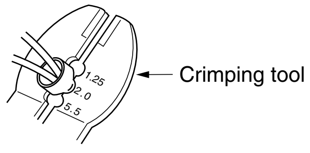


Fig.6

    (5) Check the four points noted in Fig.7.

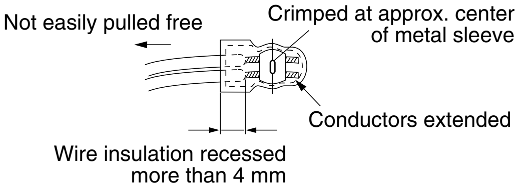

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

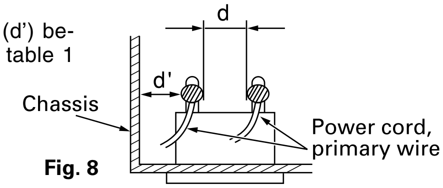


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

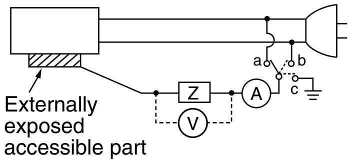


Fig. 9

5. **Grounding (Class Ⅰ model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

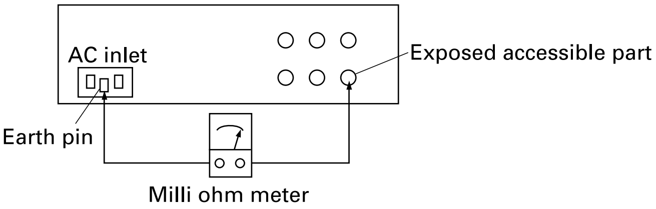


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

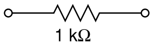
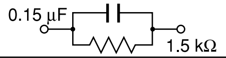
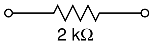
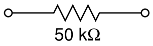
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	 1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	 0.15 µF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	 2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		 50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

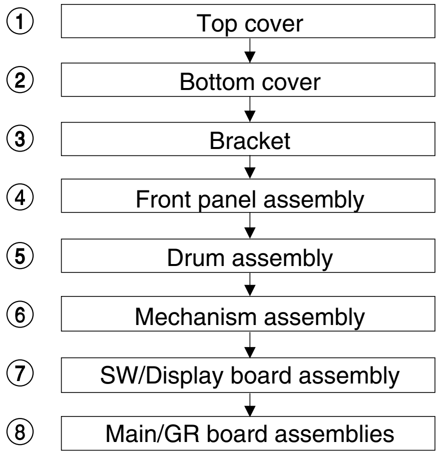
Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Top cover	D1	4(S1)	
②	Bottom cover	D2	(S2a), 2(S2b), 3(L2a), 4(L2b) EARTH PLATE	<NOTE 2>
③	Bracket	D3	2(S3)	

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig.No. showing procedure or part location

(4) Identification of part to be removed,unhooked,unlocked, released,unpluged,unclamped or unsoldered.
P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

Note:

- ***The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.***

(5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	Top cover	D1	4(S1)	
②	Bottom cover	D2	(S2a), 2(S2b), 3(L2a), 4(L2b) EARTH PLATE	<NOTE 2>
③	Bracket	D3	2(S3)	
④	Front panel assembly	D4	9(L4a), CN901(WR4a), CN902(WR4b), CN3012(WR4c) 2(S4), 2(L4b), JACK board assy	<NOTE 4a> <NOTE 4b>
⑤	Drum assembly	D5	3(S5), 4(L5a), (L5b), (P5), CON1(WR5a), CN1(WR5b) Inertia plate, Roller arm assy	<NOTE 4a>
⑥	Mechanism assembly	D6	2(S6a), 2(S6b), 2(L6), CN1(WR6)	<NOTE 4a> <NOTE 6a> <NOTE 6b>
⑦	SW/Display board assembly	D7	CN7001(WR7), (L7a), REC safety board assy, 4(L7b), 4(L7c)	<NOTE 4a> <NOTE 7>
⑧	Main board assembly	D8	2(S8a), (S8b)	
	GR board assembly		(S8c), (L8)	<NOTE4a>

<NOTE2>

- When attaching the Bottom cover, make sure that the earth plate of the Bottom cover is passed through the hole of the Bottom chassis and then touches the GND (Ground) on the Main board assembly.

<NOTE4a>

- Be careful not to damage the connector and wire etc. during connection and disconnection.
  When connecting the wire to the connector, be careful with the wire direction.

<NOTE4b>

- When reattaching the Front panel assembly, make sure that the door opener ⓐ of the Cassette holder assembly is lowered in position prior to the reinstallation.

<NOTE6a>

- When it is required to remove the screws (S6a) retaining the Mechanism assembly, please refer to the “Procedures for Lowering the Cassette holder assembly”(See on page 1-2).
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors on the Main board assembly (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002 : S cassette switch).

<NOTE6b>

- The wire (WR6) has excess length that may be loose, as it is quite long. After inserting the wire and connectors, the loose portion of the wire should be taken up and accommodated between the A/C head base and the main deck.

<NOTE7>

- The REC safety board assembly is attached to the SW/Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the SW/Display board assembly.

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

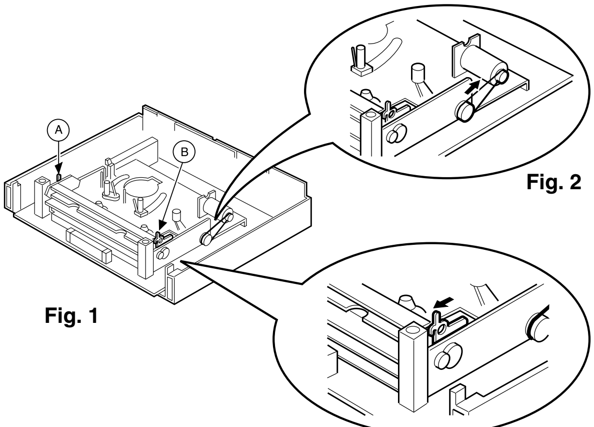


Fig. 2

Fig. 1

Fig. 3

Turn the loading motor pulley in the direction as indicated by Fig.2. As both Ⓐ and Ⓑ levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ, Ⓑ, Ⓑ, Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

Procedures for Lowering the Cassette holder assembly

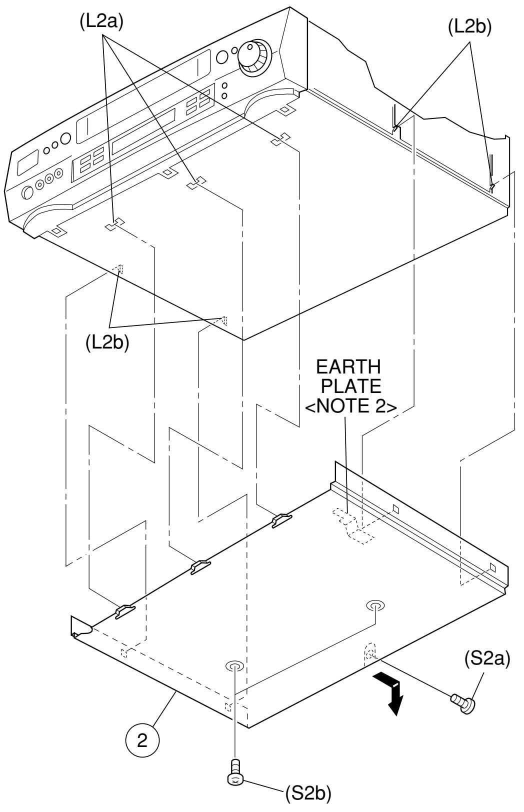


Fig. D2

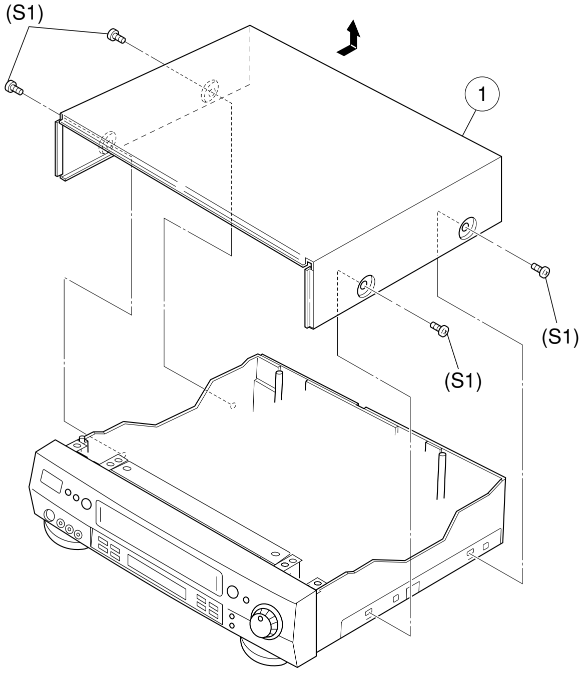


Fig. D1

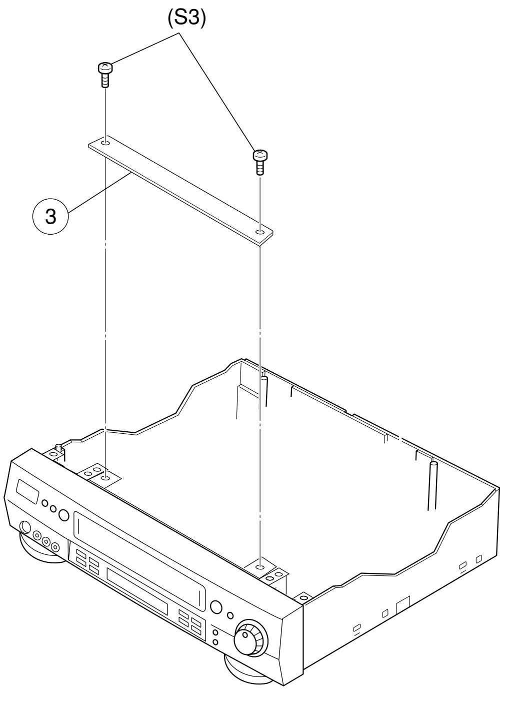


Fig. D3

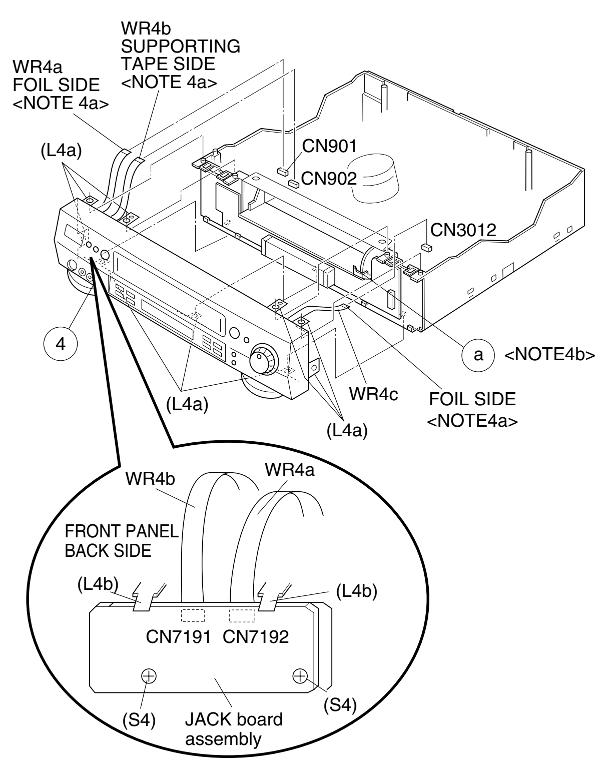

WR4b
SUPPORTING
TAPE SIDE
<NOTE 4a>
WR4a
FOIL SIDE
<NOTE 4a>
(L4a)
CN901
CN902
CN3012
4
a
<NOTE4b>
(L4a)
WR4c
FOIL SIDE
<NOTE4a>
(L4a)
WR4b
WR4a
FRONT PANEL
BACK SIDE
(L4b)
(L4b)
CN7191
CN7192
(S4)
(S4)
JACK board
assembly

Fig. D4

NOTE: When installing the DRUM assembly, secure the screws (S5) in the order of ⓐ , ⓑ , ⓒ.

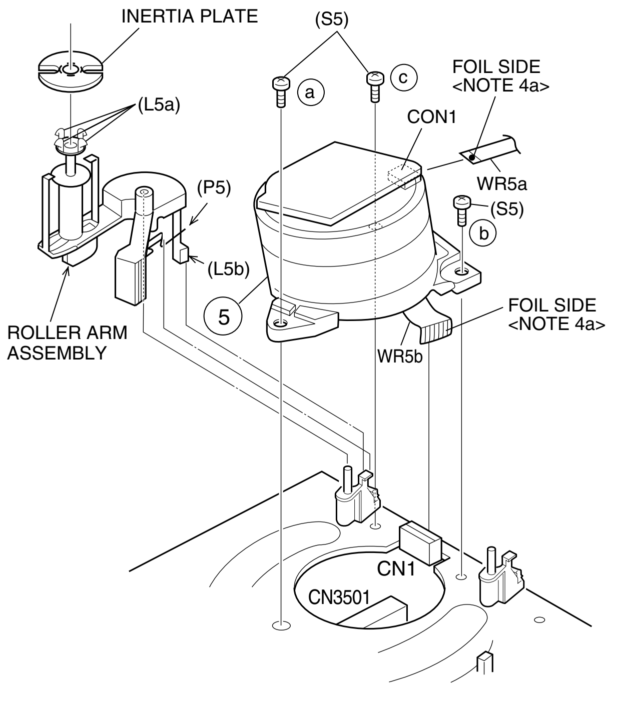

INERTIA PLATE
(S5)
a
c
FOIL SIDE
<NOTE 4a>
(L5a)
CON1
(P5)
WR5a
(S5)
b
(L5b)
5
FOIL SIDE
<NOTE 4a>
ROLLER ARM
ASSEMBLY
WR5b
CN1
CN3501

Fig. D5

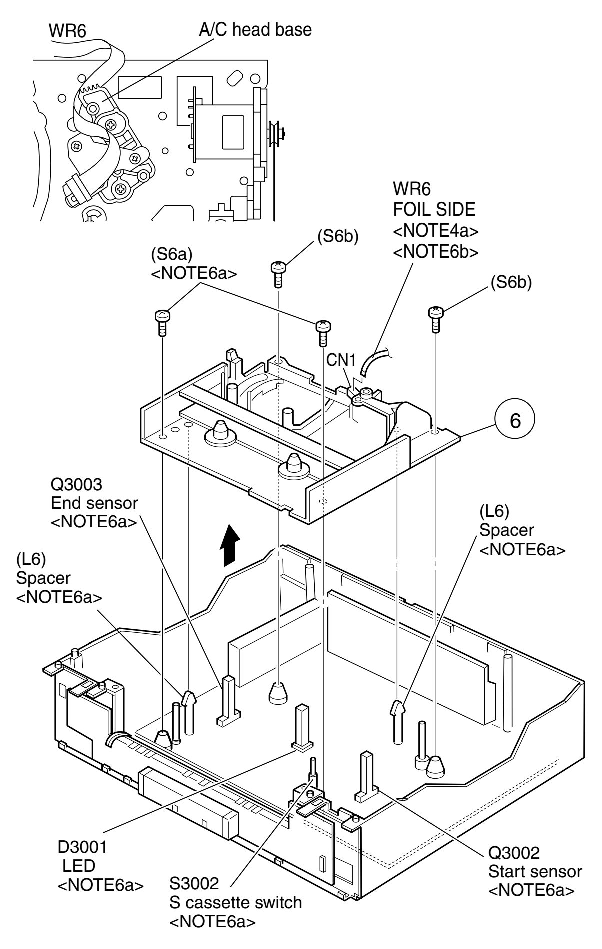

WR6
A/C head base
WR6
FOIL SIDE
<NOTE4a>
<NOTE6b>
(S6b)
(S6a)
<NOTE6a>
(S6b)
CN1
6
Q3003
End sensor
<NOTE6a>
(L6)
Spacer
<NOTE6a>
(L6)
Spacer
<NOTE6a>
D3001
LED
<NOTE6a>
S3002
S cassette switch
<NOTE6a>
Q3002
Start sensor
<NOTE6a>

Fig. D6

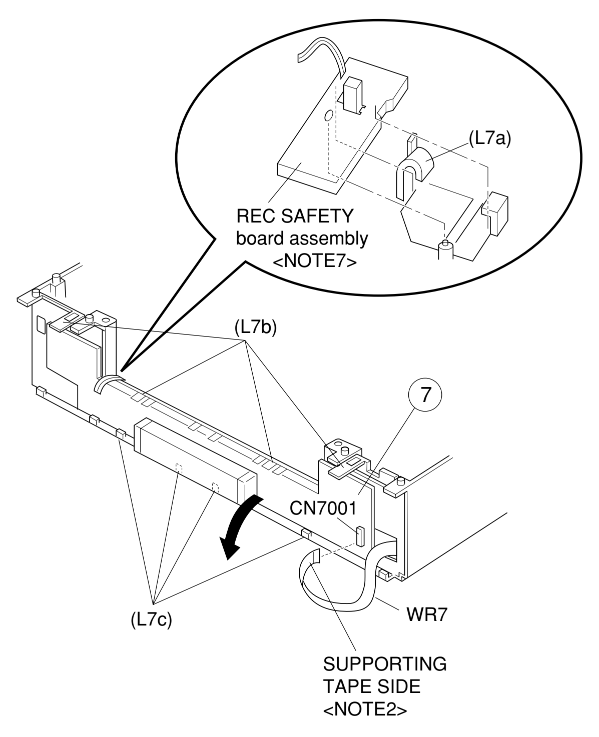

(L7a)
REC SAFETY
board assembly
<NOTE7>
(L7b)
7
CN7001
(L7c)
WR7
SUPPORTING
TAPE SIDE
<NOTE2>

Fig. D7

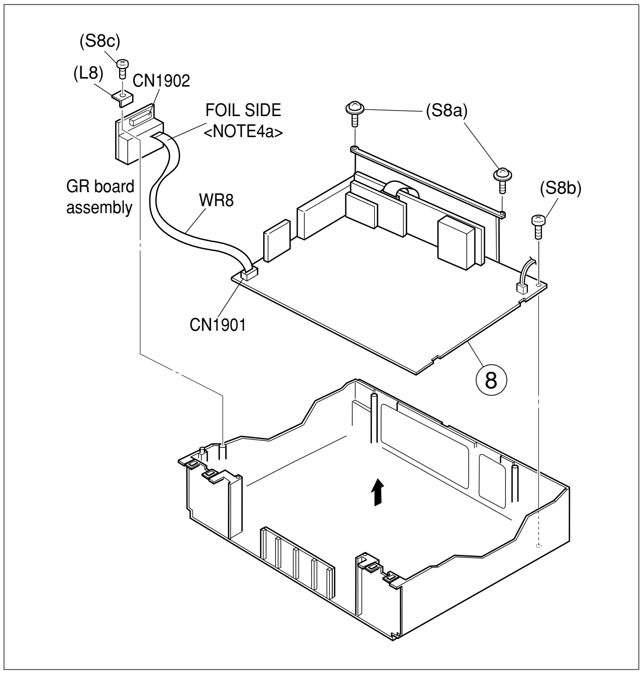

(S8c)
(L8)
CN1902
FOIL SIDE
<NOTE4a>
(S8a)
GR board assembly
WR8
(S8b)
CN1901
⑧

Fig. D8

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Bottom chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies

(1) Remove the Top cover, Bracket, Front panel assembly and JACK board assembly. (Refer to 1.3 DISASSEMBLY/ ASSEMBLY METHOD.)

(2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the “Procedures for Lowering the Cassette holder assembly” on page 1-2 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(3) Take out 2 screws Ⓐ and 2 screws Ⓑ as shown in Fig. 1-4-1.

(4) Remove the flat wires from CN3011 and CN1901 on the Main board assembly.

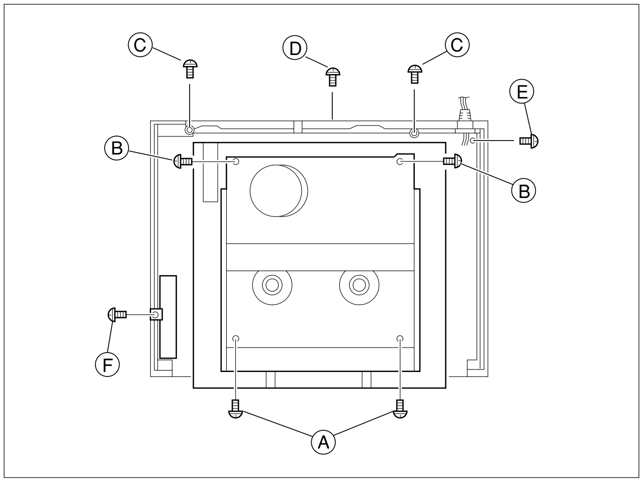


Fig. 1-4-1

(5) Take out 2 screws Ⓒ, 1 screw Ⓓ and 1 screw Ⓔ as shown in Fig. 1-4-1.

(6) Take out 1 screw Ⓕ as shown in Fig. 1-4-1, and remove the GR board assembly. (Take care not to pull the flat wire (Fig. D8) from CN1902.)

(7) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (Refer to Fig. 1-4-2.)

(8) Remove the SW/Display board assembly and REC safety board assembly. (Refer to page 1-3 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wire (Fig. D7) from CN7001.)

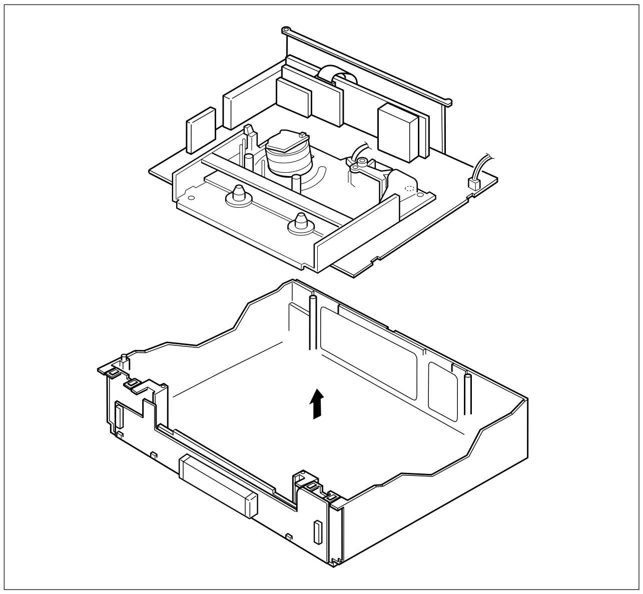


Fig. 1-4-2

(9) Place the SW/Display board assembly, REC safety board assembly, JACK board assembly and GR board assembly on the front side and left side of the Mechanism and Main board assemblies which was removed at the step (7), then connect the flat wires into CN3011, CN1901, CN901 and CN902 of the Main board assembly. (Refer to Fig. 1-4-3.)

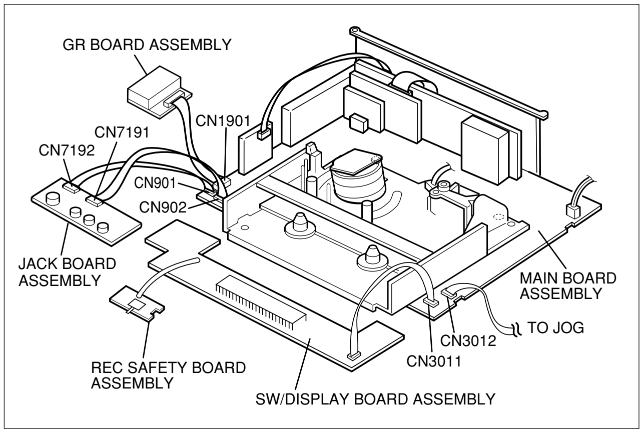

GR BOARD ASSEMBLY
CN1901
CN7191
CN7192
CN901
CN902
JACK BOARD ASSEMBLY
MAIN BOARD ASSEMBLY
TO JOG
CN3012
CN3011
REC SAFETY BOARD ASSEMBLY
SW/DISPLAY BOARD ASSEMBLY

Fig. 1-4-3

(10) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note:

- ***When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.***
  If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.3 Cassette loading and ejection methods in the "SERVICE POSITION"(See Fig. 1-4-3).

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig.1-4-3).

Notes:

- ***When performing diagnostics of the tape playback or the recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode when performing diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig.1-4-3).***
- ***In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.***

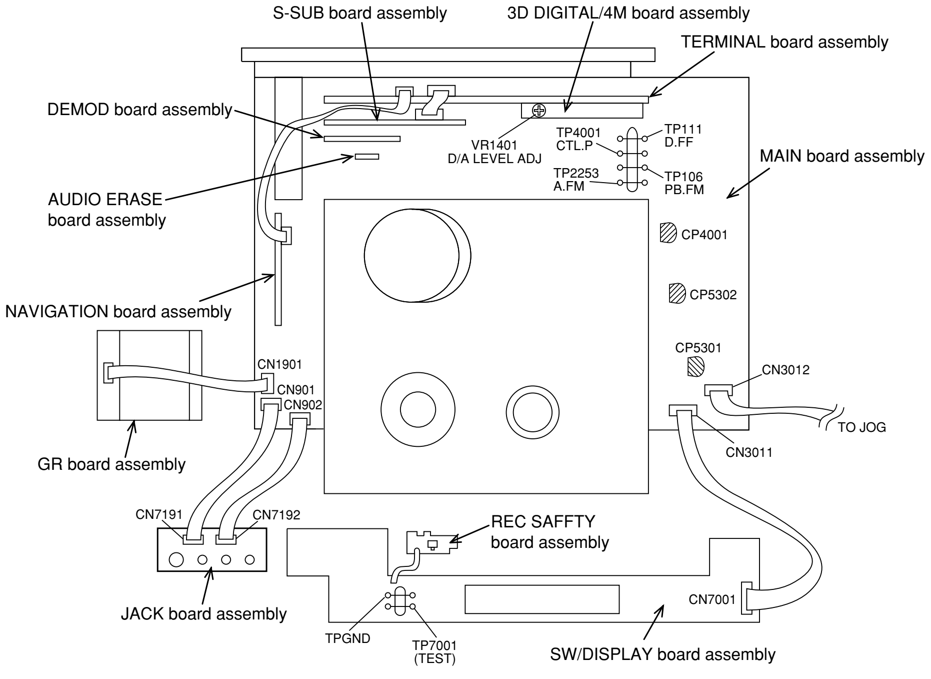
(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.5.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001 (TEST) on the SW/Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers ⒶⒷ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers ⒶⒷ , refer to the "Procedures for Lowering the Cassette holder assembly" on page 1-2 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.



S-SUB board assembly
3D DIGITAL/4M board assembly
TERMINAL board assembly
DEMOD board assembly
VR1401
D/A LEVEL ADJ
TP4001
CTL.P
TP111
D.FF
TP2253
A.FM
TP106
PB.FM
MAIN board assembly
AUDIO ERASE
board assembly
CP4001
CP5302
NAVIGATION board assembly
CP5301
CN3012
CN1901
CN901
CN902
TO JOG
CN3011
GR board assembly
CN7191
CN7192
REC SAFFTY
board assembly
JACK board assembly
CN7001
TPGND
TP7001
(TEST)
SW/DISPLAY board assembly

Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP. With the status of the VCR and mechanism at the moment an emergency occurred can also be confirmed.

FDP display switching

→ FDP display 0 : 00 : 00 Normal display
↓
E: ∗∗: ∗∗ Emergency content display (E:Latest:Previous)
↓
∗1: ∗2 : 34 Emergency detail display ①
↓
∗5: ∗6 : ∗7 Emergency detail display ②

Notes:

- ***The emergency detail display ① ② show the information on the latest emergency.***
  It becomes " – – : – – : – –" when there is no latest emergency record.
- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

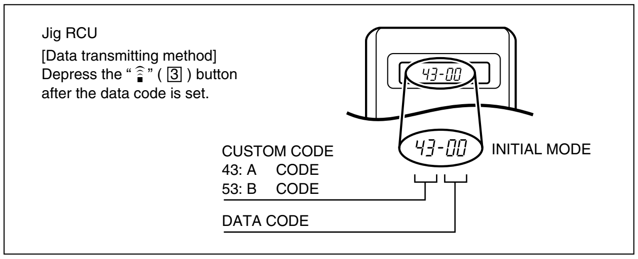

Jig RCU
[Data transmitting method]
Depress the "" (3) button after the data code is set.

Fig. 1-6-1 Jig RCU [PTU94023B]

1.6.1 Displaying the emergency information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the emergency content in the form of "E:∗∗:∗∗".

Example 1 E : 01 : 03
↑ Previous emergency
↑ Latest emergency

Example 2 E : – – : – – ← No emergency record

Note:

- ***For the emergency content, see "1.6.3 Emergency content description".***

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the emergency detail information ① in the form of "∗1 : ∗2 : 34".

∗1 : Deck operation mode at the moment of emergency
∗2 : Mechanism operation mode at the moment of emergency
3– : Mechanism sensor information at the moment of emergency
–4 : Mechanism mode position at the moment of emergency

Note:

- ***For the emergency detail information 1 , see "1.6.4 Emergency detail information ①".***

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the emergency detail information ② in the form of "∗5 : ∗6 : ∗7".

∗5 : Type of the cassette tape in use ①.
∗6 : Winding position of the cassette tape in use
∗7 : Type of the cassette tape in use ② (Winding area)

Note:

- **For the emergency detail information ② , see "1.6.5 Emergency detail information ②".**

(4) Transmit the code "59" from the Jig RCU once again to reset the display.

1.6.2 Clearing the emergency history

(1) Display the emergency history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the emergency display.

1.6.3 Emergency content description

Note: ***Emergency contents "E08/E09" are for the model with Dynamic Drum (DD).***

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the loading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	① The mechanism is locked in the middle of mode transition. ② The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. ③ Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	① The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. ② The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. ③ Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	① The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. ② The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. ③ The drum control voltage (DRUM CTL V) is not supplied to the MDA. ④ Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	① The cassette cannot be ejected due to a failure in the drive mechanism of the housing. ② When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. ③ The sensor/switch for detecting the end of ejection are not functioning normally. ④ The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). ⑤ When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	① The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). ② The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. ③ The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. ④ Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	① The SW 5 V power supply circuit is shorted with GND. ② The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	① The absolute value sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. ④ The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	① The FG sensor is defective. (The soldered parts have separated.) ② The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) ③ Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. ④ The power to the sensor is not supplied. (Connection failure/soldering failure) ⑤ The FG pulse is not sent to the System Controller CPU. ⑥ The tilt motor is defective. (The soldered parts have separated.) ⑦ The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) ⑧ The tilt motor drive MDA - IC is defective. ⑨ Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	① The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. ② The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. ③ The power to a reel sensor is not supplied.
EC1 or EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:C1] or [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-6-1

1.6.4 Emergency detail information ①

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest emergency can be confirmed based on the figure in EMG detail information ①.

[FDP display]

∗1 : ∗2 : 34

∗1 : Deck operation mode at the moment of emergency
∗2 : Mechanism operation mode at the moment of emergency
3− : Mechanism sensor information at the moment of emergency
−4 : Mechanism mode position at the moment of emergency

Note:

- ***In the Deck operation mode/Mechanism operation mode/Mechanism mode position, the contents of the code that is shown on the FDP differs depending on the parts number of the System Control microprocessor (IC3001) of the VCR.***
  For the microprocessor parts number that starts with the two letters "MN", refer to the Table of MN and for parts number with "HD", refer to the Table of HD.

∗1 : Deck Operation Mode
[Table of MN]

Display	Deck Operation Mode
00	Mechanism being initialized
01	STOP with pinch roller pressure off (or tape present with P.OFF)
02	STOP with pinch roller pressure on
03	POWER OFF as a result of EMG
04	PLAY
0C	REC
10	Cassette ejected
20	FF
21	Tape fully loaded, START sensor ON, short FF
22	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	FWD SEARCH (variable speed) including x2-speed
2C	INSERT REC
40	REW
42	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	REV SEARCH (variable speed)
4C	AUDIO DUB
6C	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8C	REC PAUSE
8D	Back spacing
8E	Forward spacing (FWD transport mode with BEST function)
AC	INSERT REC PAUSE
AD	INSERT REC Back spacing
CC	AUDIO DUB PAUSE
CD	AUDIO DUB Back spacing
EC	INSERT REC (VIDEO + AUDIO) PAUSE
ED	INSERT REC (VIDEO + AUDIO) Back spacing

[Table of HD]

Display	Deck Operation Mode
00	STOP with pinch roller pressure off (or tape present with P.OFF)
01	STOP with pinch roller pressure on
04	PLAY
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH (variable speed)
4C	AUDIO DUB
6E	INSERT REC (VIDEO+AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO+AUDIO) PAUSE

∗2 : Mechanism Operation Mode
[Table of MN]

Display	Mechanism Operation Mode
00	Command standby (Status without executing command)
02	POWER OFF by EMG occurrence
04	Moving to the adjacent position in the LOAD direction
06	Moving to the adjacent position in the UNLOAD direction
08	Cassette ejection being executed
0A	Cassette insertion being executed
0C	Tape being loaded
0E	Tape being unloaded
10	Mode transition to STOP with pinch roller compression ON
12	Mode transition to STOP with pinch roller compression OFF
14	Mode transition to STOP with pinch roller compression OFF as a result of POWER OFF
16	Mode transition to STOP with pinch roller compression ON as a result of POWER ON
18	Mode transition to PLAY
1A	Mode transition to FWD SEARCH
1C	Mode transition to REC
1E	Mode transition to FWD STILL/SLOW
20	Mode transition to REV STILL/SLOW
22	Mode transition to REV SEARCH
24	Mode transition from FF/REW to STOP
26	Mode transition to FF
28	Mode transition to REW
2A	4 sec. of REV as a result of END sensor going ON during loading
2C	Short FF/REV as a result of tape sensor going ON during unloading
2E	Mechanism position being corrected due to overrun
80	Mechanism in initial position (Dummy command)

[Table of HD]

Display	Mechanism Operation Mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)

3– : Mechanism Sensor Information
[Common table of MN and HD]

Display	Mechanism Sensor Information			
	S-VHS SW	REC SAFETY SW	START SENSOR	END SENSOR
0–	VHS	Tab broken	ON	ON
1–	VHS	Tab broken	ON	OFF
2–	VHS	Tab broken	OFF	ON
3–	VHS	Tab broken	OFF	OFF
4–	VHS	Tab present	ON	ON
5–	VHS	Tab present	ON	OFF
6–	VHS	Tab present	OFF	ON
7–	VHS	Tab present	OFF	OFF
8–	S-VHS	Tab broken	ON	ON
9–	S-VHS	Tab broken	ON	OFF
A–	S-VHS	Tab broken	OFF	ON
B–	S-VHS	Tab broken	OFF	OFF
C–	S-VHS	Tab present	ON	ON
D–	S-VHS	Tab present	ON	OFF
E–	S-VHS	Tab present	OFF	ON
F–	S-VHS	Tab present	OFF	OFF

–4 : Mechanism Mode Position
[Table of MN]

Display	Mechanism Mode Position
-0	Initial value
-1	EJECT position
-2	Housing operating
-3	U/L STOP position
-4	Tape being loaded/unloaded (When the pole base is located on the front side of the position just beside the drum)
-5	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
-6	Pole base compressed position
-7	FF/REW position
-8	Between FF/REW and STOP with pinch roller compression ON
-9	STOP with pinch roller compression OFF
-A	Between STOP with pinch roller compression OFF and REV
-B	REV (REV STILL/SLOW) position
-C	Between REV and FWD
-D	FWD (FWD STILL/SLOW) position
-E	Between FWD and PLAY
-F	PLAY position

[Table of HD]

Display	Mechanism Mode Position
–0	EJECT position
–1	U/L STOP position
–2	Tape being loaded/unloaded (When the pole base is located on the rear side of the position just beside the drum)
–3	FF/REW position
–4	STOP with pinch roller pressure off
–5	REV (REV STILL/SLOW) position
–6	FWD (FWD STILL/SLOW) position, PLAY position
–7	Intermediate position during transition between other mechanism modes

Note:

- ***As the display is always "–7" at any intermediate position between mechanism modes, the position of transitory EMG may sometimes not be locatable.***

1.6.5 Emergency detail information ②

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information ②.

[FDP display]

⋆5 : ⋆6 : ⋆7

⋆5 : Type of the cassette tape in use ①
⋆6 : Winding position of the cassette tape in use
⋆7 : Type of the cassette tape in use ② (Winding area)

Note:

- ***EMG detail information ② is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.***

⋆5 : Cassette tape type ①

Display	Cassette Tape Type ①
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- ***Cassette tape type ① is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.***
- ***If other value than those listed in the above table is displayed, the cassette tape type is not identified.***

⋆6 : Cassette tape winding position

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 22 sections using a hex number from "00" to "15".

"00" : End of winding
"15" : Beginning of winding
"FF" : Tape position not identified

⋆7 : Cassette tape type ② (Winding area)

Display	Cassette Tape Type ②	
00	Cassette type not identified	
07	Small reel, thick tape	T-5
08 - 0E	C cassette, thick tape	TC-10
09 - 15	C cassette, thick tape	TC-20P
0A - 0B	Small reel, thick tape	T-20
0A - 16	C cassette, thin tape	TC-30
0A - 16	C cassette, thin tape	TC-40
0D - 0F	Small reel, thick tape	T-40
11 - 14	Small reel, thick tape	T-60
15 - 18	Small reel, thick tape	T-80/DF-160
17 - 1A	Small reel, thick tape	T-80/DF-180
19 - 1D	Small reel, thick tape	T-100
1D - 21	Small reel, thick tape	T-120/DF-240
1E - 1F	Small reel, thin tape	T-140
1F - 23	Small reel, thick tape	T-130
21 - 23	Small reel, thin tape	T-160
21 - 23	Small reel, thin tape	T-168
22 - 24	Small reel, thick tape	DF-300
22 - 24	Small reel, thin tape	T-180/DF-380
22 - 24	Small reel, thin tape	T-210/DF-420
22 - 23	Large reel	T-5
23 - 24	Large reel	T-10
25 - 26	Large reel	T-20
27 - 29	Large reel	T-30
29 - 2B	Large reel	T-40
2D - 2F	Large reel	T-60

Note:

- ***The values of cassette tape type ② in the above table are typical values with representative cassette tapes.***

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM_DET(H)/KILLER_DET	-	NC
13	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START_SENSOR	IN	START SENSOR
15	END_SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD_ABS	IN	DYNAMIC DRUM POSITION DETECT
18	SCR_ID	-	NC
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS_ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	-	NC
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP_REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	LOCK(L)/P.SAVE[0.1]	IN	TUNING PLL LOCK DETECT:L
31	P50_IN	-	NC
32	R.PAUSE/COMPU_IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
33	RAE_OUT/COMPUOUT	OUT	NC / A/V COMPULINK OUTPUT
34	P50_OUT	-	NC
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	LMC3	OUT	LOADING MOTOR DRIVE(3)
38	SB_G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	RMO	OUT	REMOTE CONTROL OUTPUT FOR CABLE BOX
45	VCC	-	SYSTEM POWER
46	EXP2_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
47	EXP1_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
48	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/REG CONTROL
49	I2C_DATA_A/V	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C_CLK_A/V	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	S.DATA_TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA_FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	JUST_CLK/EDS(H)	OUT	NC/EDS ON:H

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU_CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
59	DD_FG	IN	DYNAMIC DRUM FG INPUT
60	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU_DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU_A_MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU_V_MUTE(H)	-	NC
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C_CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	OUT	DYNAMIC DRUM CONTROL (FORWARD)
78	DDCREV	OUT	DYNAMIC DRUM CONTROL (REVERSE)
79	DDSPDCTL	OUT	DYNAMIC DRUM SPEED CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	R-Y_REV/EDS_CS	OUT	NC/DIGITAL SUB (EDS) IC CHIP ENABLE
82	VCC	-	SYSTEM POWER
83	SLOW_P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP_SHORT(H)	-	NC
86	LP_SHORT(H)	-	NC
87	FLY_ON(H)	OUT	FLYING ERASE ON:H
88	H.REC_ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)/M_TRICK(L)	-	NC
90	HEAD_SEL	OUT	HEAD SELECT(EP/LP HEAD:H, SP HEAD:L)
91	OSD_CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC_DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	MESECAM(H)	-	NC
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB/S_CASS(H)	IN	INPUT FOR THE JOG SHUTTLE/NC
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB_RESET	OUT	RESET SIGNAL FOR THE SUB CPU (NAVI)
104	HI_FF/REW(L)	OUT	HIGH FF/REW:L
105	SUB_BUSY	IN	SUB CPU (NAVI) BUSY
106	SUB_CS	OUT	CHIP SELECT FOR THE SUB CPU (NAVI)
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

1.8 SERVICING THE VIDEO NAVIGATION FUNCTION

The video navigation function is to record data to the built-in FLASH memory of the VCR. At the same time a reference number is wrote on the cassette tape for control purposes. Therefore, the FLASH memory and the cassette tape (self-recorded tape) form a related pair. If the FLASH memory or the board assembly (in which the FLASH memory is included) is replaced, the video navigation function will not operate. In this case, it is required to copy the video navigation data in the original FLASH memory into the FLASH memory of the unit which the navigation function is available.

1.8.1 Copying the video navigation data

Notes:

- ***When copying the video navigation data, initialization of the FLASH memory of the master unit is required.***
- ***Connect the JLIP cable to each "JLIP terminal" of the VCR.***
  JLIP Cable (Parts No. : QAM0129-001 or PEAC0453)

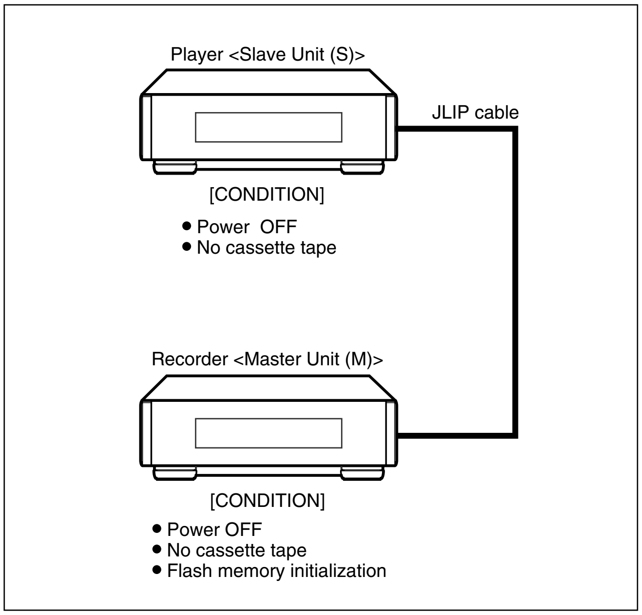


Fig. 1-8-1a Connection diagram

(1) Turn [OFF] the power of the 2 units (slave and master) VCR and set it without a cassette tape.

(2) Press the [PLAY] button of the slave unit for 7 seconds. When the copy mode is set, [1] will be displayed on the FDP.

FDP : 1 (S)

Note:

- ***To cancel the copy mode, press the [PLAY] button of the slave unit, then the copy mode of the slave unit will be cancelled.***

(3) Press the [PAUSE] button of the master unit for 7 seconds. When the copy mode is set, [2] will be displayed on the FDP.

FDP : 2 (M)

Note:

- ***To cancel the copy mode, press the [PAUSE] button of the master unit, then the copy mode of the master unit will be cancelled.***

(4) Press the [STOP] button of the master unit.
When copying is started, [3] will be displayed on the FDP and when copying is completed the FDP display changes from [3] to [4].
When an error occurs during the copying process, [5] will be displayed on the FDP. During such an occurrence the slave unit FDP display is [1].

FDP : 1 (S)

FDP : 3 (M)

<Completed>
FDP : 4 (M)
<Error>
FDP : 5 (M)

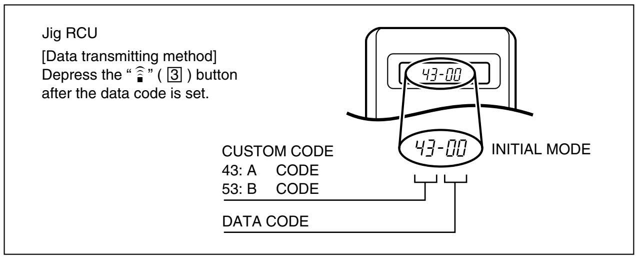
(5) Press the [STOP] button of the master unit.
The copy mode of the master and slave unit will be cancelled simultaneously.

1.8.2 Erasing the video navigation data (Initialization)

This is the service mode to erase all the video navigation data inside the FLASH memory. When a unit is replaced or after an operations check, erase the data which is not required while observing the TV screen.

Notes:

- ***During Flash memory initialization, the transmission of the jig code may affect the peripheral VCR. Therefore, when initializing the Flash memory, be sure to unplug the peripheral VCR power cable.***
- ***Please take note that after erasing data cannot be restored, therefore care must be exercised.***
- ***When using the Jig RCU. set its custom code to match the custom code of the VCR.***

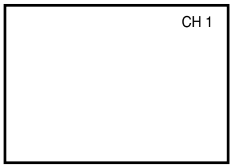


Jig RCU
[Data transmitting method]
Depress the “ ” (3) button
after the data code is set.

Fig. 1-8-2a Jig RCU [PTU94023B]

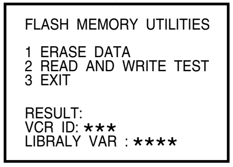
(1) Turn ON the power.
(2) Transmit the code “FC” from the Jig RCU.
Then the [FLASH MEMORY UTILITIES] screen is displayed. (See Fig. 1-8-2c.)
(3) Transmit the code “21” from the Jig RCU.
Select [1. ERASE], then ERASE starts. During erase [PLEASE WAIT] is displayed and when erase is completed [ERASED] will be displayed. (See Fig. 1-8-2d and Fig. 1-8-2e.)
(4) Transmit the code “23” from the Jig RCU, then the mode is cancelled. (See Fig. 1-8-2b.)

Fig. 1-8-2b



CH 1

Fig. 1-8-2c

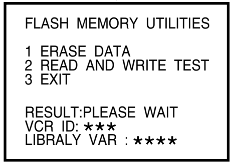


FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WRITE TEST
3 EXIT

RESULT:
VCR ID: ★★★
LIBRALY VAR : ★★★★

Fig. 1-8-2d

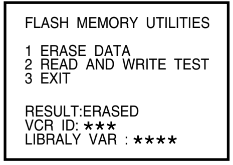


FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WRITE TEST
3 EXIT

RESULT:PLEASE WAIT
VCR ID: ★★★
LIBRALY VAR : ★★★★

Fig. 1-8-2e



FLASH MEMORY UTILITIES

1 ERASE DATA
2 READ AND WRITE TEST
3 EXIT

RESULT:ERASED
VCR ID: ★★★
LIBRALY VAR : ★★★★

1.8.3 Factory setting level during shipment

After shipment from the factory, this is the service mode to return the rewritten EEPROM data to the factory setting level [Factory reset].

Note:

- ***When this operation is executed, all user's setting contents will return to the factory setting level, therefore care must be exercised.***

(1) Insert a cassette tape.
(2) Transmit the code “6F” from the Jig RCU.
(3) After a setting is completed, the cassette tape is automatically ejected.

SECTION 2
MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

(1) Unplug the power cable of the main unit before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
(2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-3a.)
(3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
(4) Move the top guide toward the drum while holding down the lug Ⓐ of the bracket retaining the top guide. Likewise hold part Ⓑ down and remove the top guide.
Section Ⓒ of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-3b.)
(5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

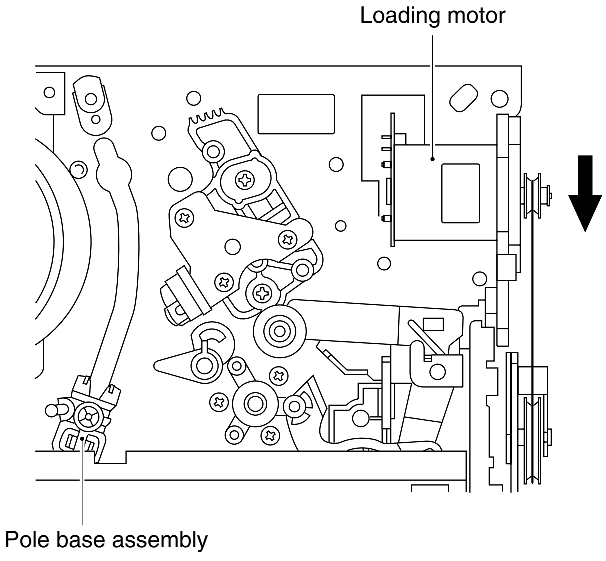


Fig. 2-1-3a

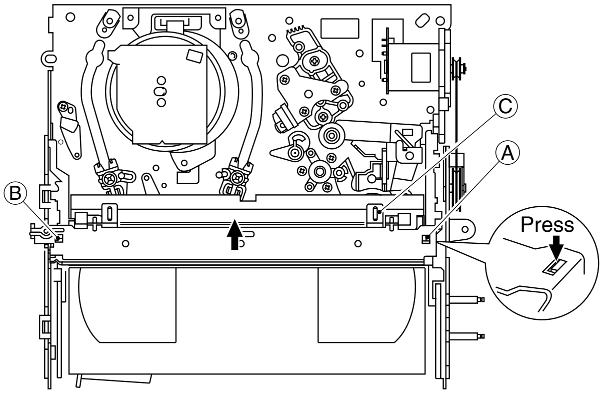


Fig. 2-1-3b

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)

(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3c.)

(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-3d.)

(4) In the same way as in the electrical failure instructions in 2.1.3-1(4), remove the top guide.

(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.

(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

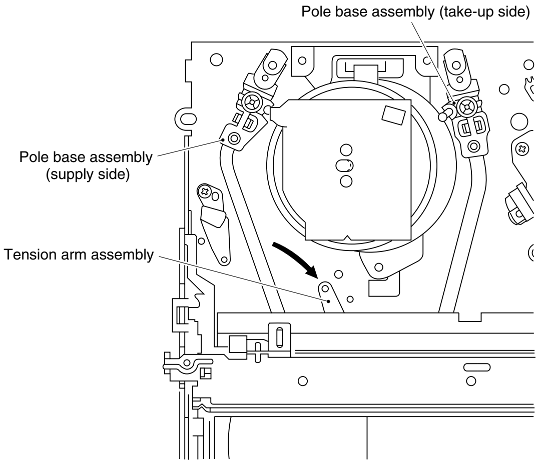

Pole base assembly (take-up side)
Pole base assembly (supply side)
Tension arm assembly

Fig. 2-1-3c

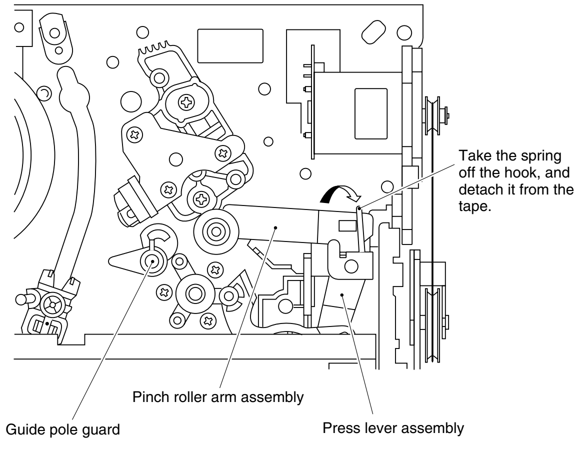
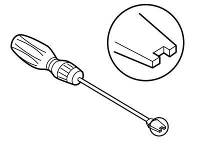
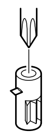
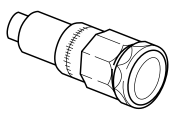
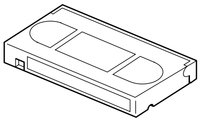
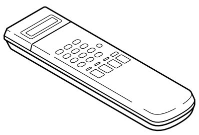
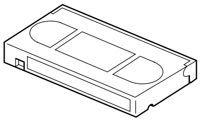
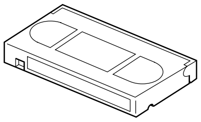

Take the spring off the hook, and detach it from the tape.
Pinch roller arm assembly
Guide pole guard
Press lever assembly

Fig. 2-1-3d

2.1.4 Jigs and Tools Required for Adjustment

Roller driver PTU94002	A/C head positioning tool PTU94010	Torque gauge PUJ48075-2
		
Back tension cassette gauge PUJ48076-2	Jig RCU PTU94023B	
		
Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (EP, stairstep, NTSC) MHP-L	
		

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts

In this chapter, the two mechanism speeds are described by comparing the speeds of the standard type and the high-speed FF/REW type.

It is possible to distinguish between these two types of mechanism by the diameters of their capstan pulleys.

The capstan pulley diameter for the standard type is approx. 32 mm.

The capstan pulley diameter for the high-speed FF/REW type is approx. 43 mm.

For information on the different parts used in the two mechanism types, please refer to the “Replacement of major parts”.

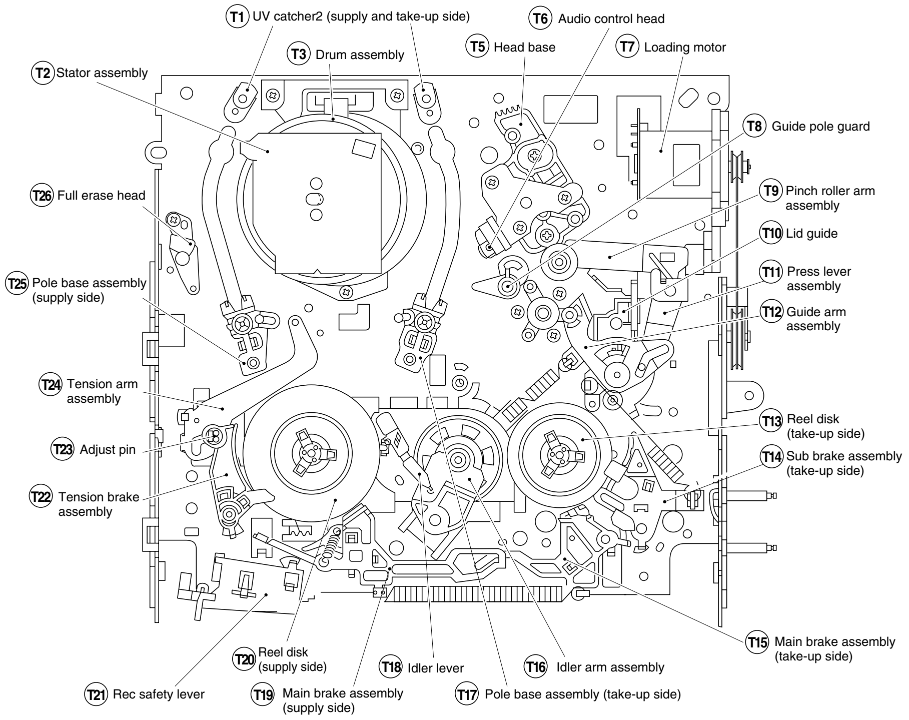

T1 UV catcher2 (supply and take-up side)
T2 Stator assembly
T3 Drum assembly
T5 Head base
T6 Audio control head
T7 Loading motor
T8 Guide pole guard
T9 Pinch roller arm assembly
T10 Lid guide
T11 Press lever assembly
T12 Guide arm assembly
T13 Reel disk (take-up side)
T14 Sub brake assembly (take-up side)
T15 Main brake assembly (take-up side)
T16 Idler arm assembly
T17 Pole base assembly (take-up side)
T18 Idler lever
T19 Main brake assembly (supply side)
T20 Reel disk (supply side)
T21 Rec safety lever
T22 Tension brake assembly
T23 Adjust pin
T24 Tension arm assembly
T25 Pole base assembly (supply side)
T26 Full erase head

Fig. 2-1-5a Mechanism assembly top side

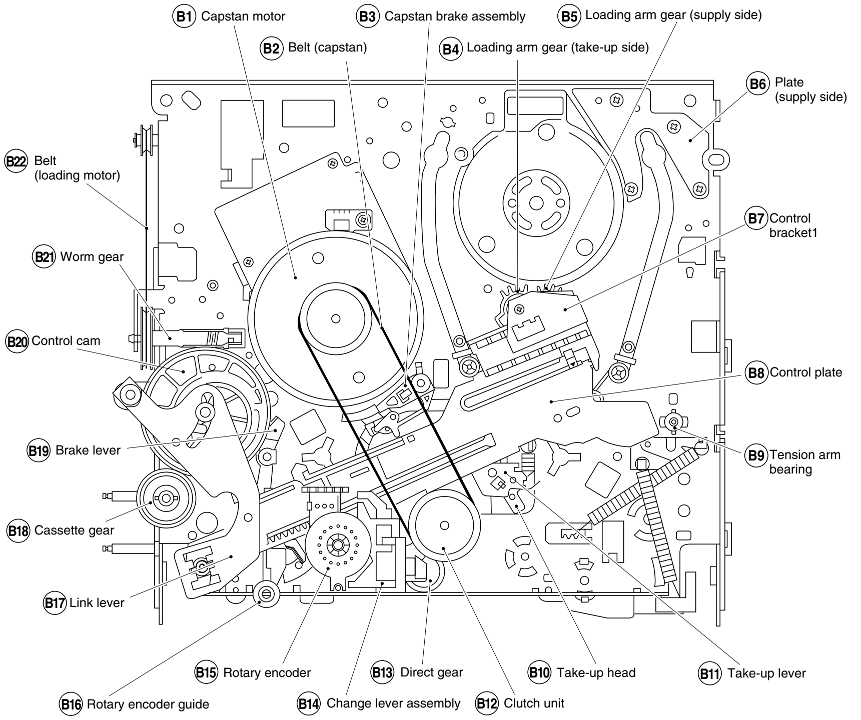

B1 Capstan motor
B2 Belt (capstan)
B3 Capstan brake assembly
B4 Loading arm gear (take-up side)
B5 Loading arm gear (supply side)
B6 Plate (supply side)
B7 Control bracket1
B8 Control plate
B9 Tension arm bearing
B10 Take-up head
B11 Take-up lever
B12 Clutch unit
B13 Direct gear
B14 Change lever assembly
B15 Rotary encoder
B16 Rotary encoder guide
B17 Link lever
B18 Cassette gear
B19 Brake lever
B20 Control cam
B21 Worm gear
B22 Belt (loading motor)

Fig. 2-1-5b Mechanism assembly bottom side

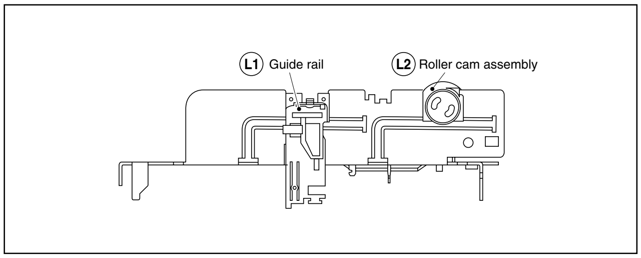


Fig. 2-1-5c Mechanism assembly left side

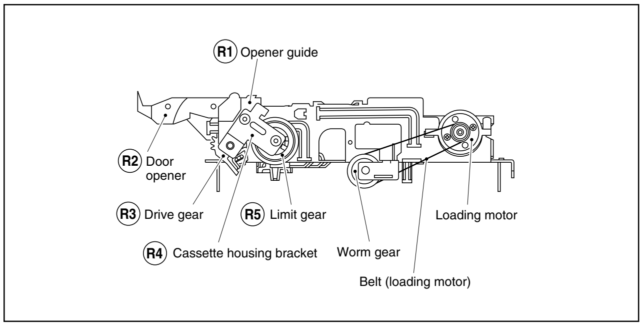


Fig. 2-1-5d Mechanism assembly right side

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note:

- ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- ***See the "mechanism assembly" diagram of the parts list for the lubricating or greasing spots, and for the types of oil or grease to be used.***

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★ : Cleaning
○ : Inspection or Replacement if necessary

Table 2-1-5a

5. Disassembling procedure table

The following table indicates the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.

The symbols and numbers preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

	Symbols and numbers			L1	L2	R4	R1	–	–	R3	–	T9	T12	T11	T1	B15	B12	B14	B13	–	B17	B21	B7	B8	B5	B4	B11	T14	T15	T13	T22	T24	T18	B19
Symbols and numbers	Removal parts (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Clutch gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever	Brake lever (∗1)
L1	2.2.3 Guide rail	T	1																															
L2	2.2.3 Roller cam assembly	T	1																															
R4	2.2.3 Cassette housing bracket	T	1																															
R1	2.2.3 Opener guide	T	2			1																												
R2	2.2.3 Door opener	T	3			1	2																											
–	2.2.3 Relay gear	T	3			1	2																											
R5	2.2.3 Limit gear	T	3			1	2																											
–	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																										
R3	2.2.3 Drive gear	T	4			1	2	3																										
–	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																								
T9	2.2.4 Pinch roller arm assembly	T	1																															
T12	2.2.5 Guide arm assembly	T	1																															
T11	2.2.5 Press lever assembly	T	3									1	2																					
T6	2.2.6 Audio control head	T	1																															
T7	2.2.7 Loading motor	T	1																															
B1	2.2.8 Capstan motor	T/B	1																															
T1	2.2.9 UV catcher2	T	1																															
T17	2.2.9 Pole base assembly (take-up side)	T/B	2												1																			
T25	2.2.9 Pole base assembly (supply side)	T/B	2												1																			
B15	2.2.10 Rotary encoder	B	1																															
B12	2.2.11 Clutch unit	B	1																															
B14	2.2.12 Change lever assembly	B	3													1	2																	
B13	2.2.12 Direct gear	B	4													1	2	3																
–	2.2.12 Clutch gear	B	5													1	2	3	4															
–	2.2.12 Coupling gear (∗2)	B	6													1	2	3	4	5														
B17	2.2.13 Link lever	B	1																															
B18	2.2.14 Cassette gear	B	2																		1													
B20	2.2.14 Control cam	B	2																		1													
B21	2.2.14 Worm gear	B	1																															
T10	- Lid guide	T/B	5									1	2	3								4												
B7	2.2.15 Control bracket1	B	1																															
B8	2.2.15 Control plate	B	6													1	2	3			4		5											
B5	2.2.16 Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
B4	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
–	2.2.16 Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
B11	2.2.17 Take-up lever	T/B	7													1	2	3			4		5	6										
B10	2.2.17 Take-up head	T/B	8													1	2	3			4		5	6			7							
–	2.2.17 Control plate guide	T/B	8													1	2	3			4		5	6			7							
B3	2.2.18 Capstan brake assembly	T/B	7													1	2	3			4		5	6										
T14	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
T15	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T19	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
T13	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T22	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
T20	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																				9			
T24	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																				9			
B9	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																				9			
T18	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16		
T16	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14							15	16	17	
B19	- Brake lever (∗1)	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				
B16	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				18

Table 2-1-5b

Note:

- ***The parts with marked (∗) have different types of mechanisms (standard type or high-speed FF/REW type).***
  ∗1 : Uses the standard type mechanism only.
  ∗2 : Uses the high-speed FF/REW type mechanism only.

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.

Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.

Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another. (For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.

This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-2a.)

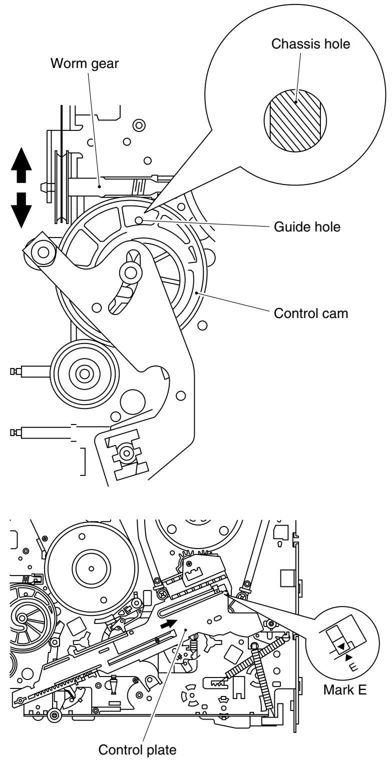

Chassis hole
Worm gear
Guide hole
Control cam
E
Mark E
Control plate

Fig. 2-2-2a

2.2.3 Cassette Holder Assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-3a.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

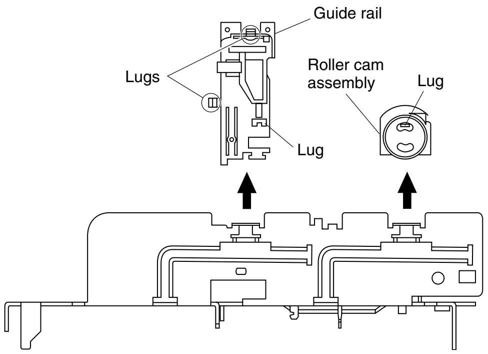

Guide rail
Lugs
Roller cam assembly
Lug
Lug

Fig. 2-2-3a

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3b.)

(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3b.)

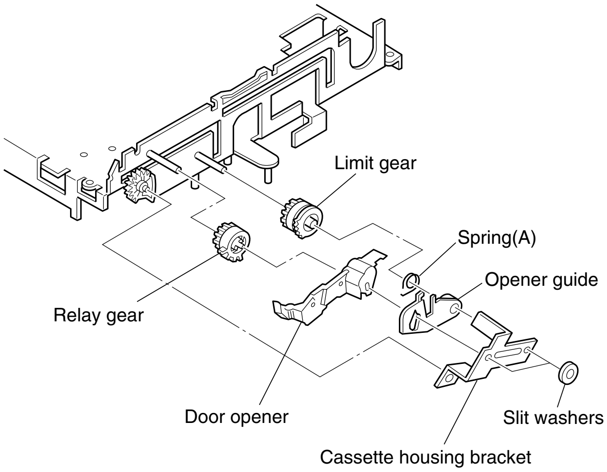

Limit gear
Spring(A)
Opener guide
Relay gear
Door opener
Slit washers
Cassette housing bracket

Fig. 2-2-3b

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-3c.)

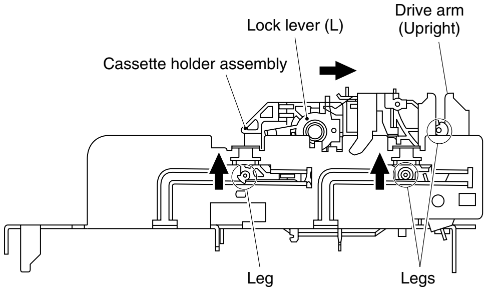

Drive arm (Upright)
Lock lever (L)
Cassette holder assembly
Leg
Legs

Fig. 2-2-3c

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs Ⓐ and Ⓑ on the right side out of the rail and also pull up the leg Ⓒ. (See Fig.2-2-3d and Fig.2-2-3e.)

(6) Draw out the drive gear, and remove the drive arm.

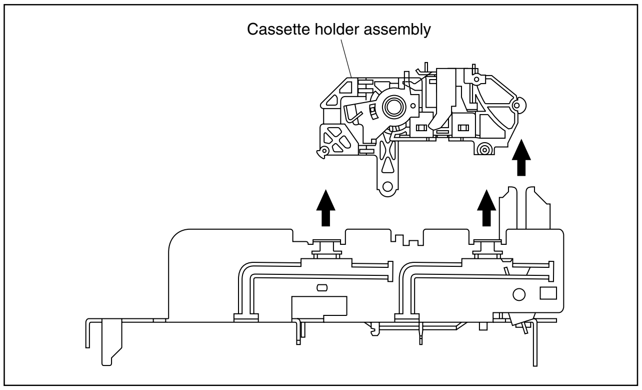

Cassette holder assembly

Fig. 2-2-3d

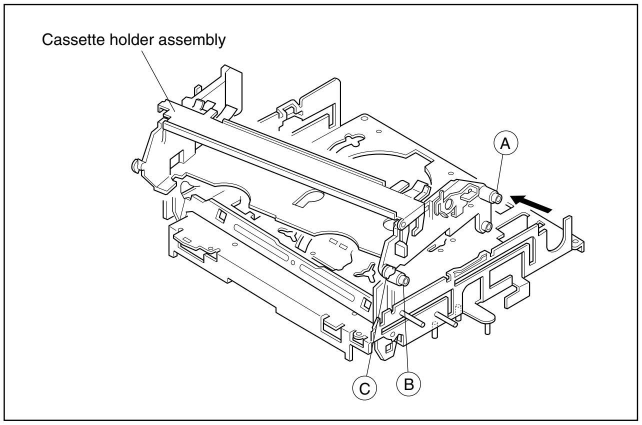

Cassette holder assembly
A
C
B

Fig. 2-2-3e

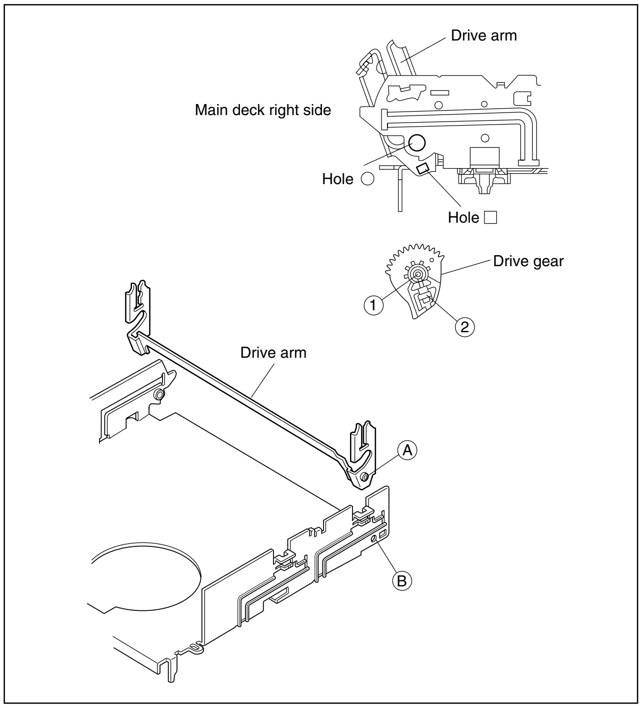

Drive arm
Main deck right side
Hole ○
Hole □
Drive gear
1
2
Drive arm
A
B

Fig. 2-2-3f

2. How to install (Phase matching)

(1) Insert the section Ⓐ of the drive arm into the section Ⓑ of the main deck.

(2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-3f.)

(3) Hold the drive arm upright and fit the leg Ⓒ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-3g.)

(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs Ⓐ and Ⓑ into the rail. (See Fig.2-2-3g.)

(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-3h.)

(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.

(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-3i.)

(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-3i.)

(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

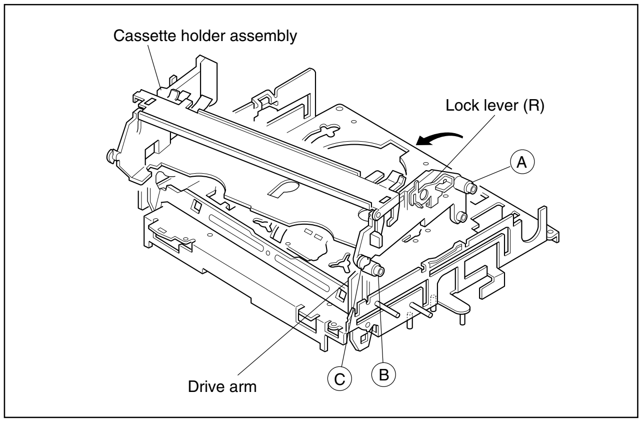

Cassette holder assembly
Lock lever (R)
A
Drive arm
C
B

Fig. 2-2-3g

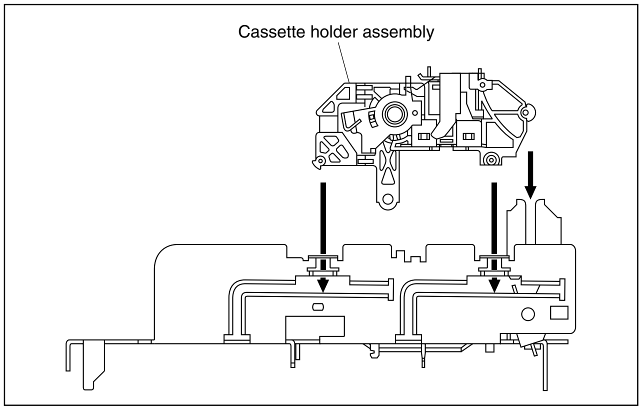

Cassette holder assembly

Fig. 2-2-3h

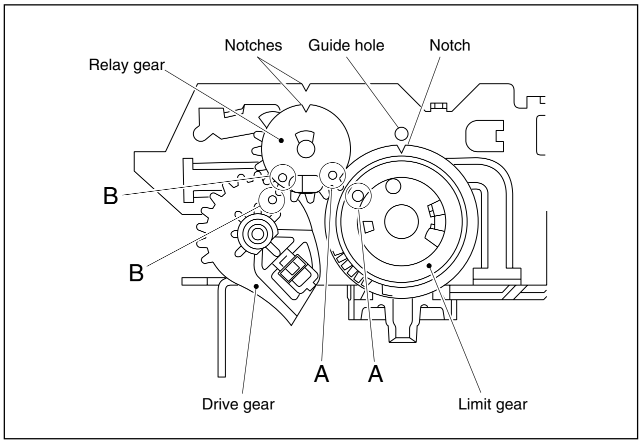

Relay gear
Notches
Guide hole
Notch
B
B
A
A
Drive gear
Limit gear

Fig. 2-2-3i

2.2.4 Pinch Roller Arm Assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.

(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-4a.)

(3) Remove the pinch roller arm assembly by pulling it up.

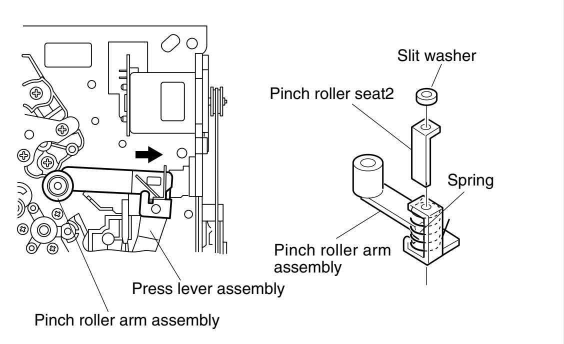

Slit washer
Pinch roller seat2
Spring
Pinch roller arm assembly
Press lever assembly
Pinch roller arm assembly

Fig. 2-2-4a

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.

(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-5a.)

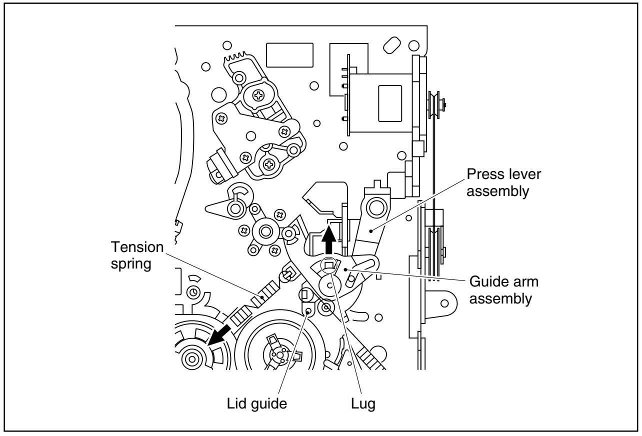

Press lever assembly
Tension spring
Guide arm assembly
Lid guide
Lug

Fig. 2-2-5a

2.2.6 Audio Control Head

1. How to remove

(1) Remove the two screws (A) and remove the audio control head together with the head base.

(2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

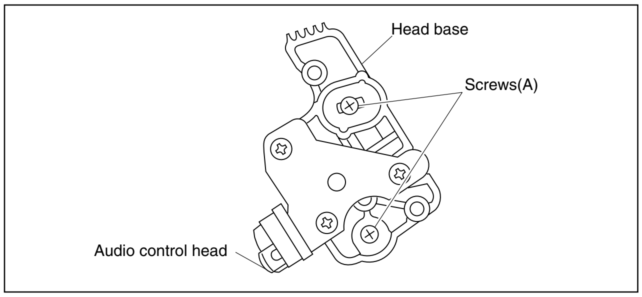

Head base
Screws(A)
Audio control head

Fig. 2-2-6a

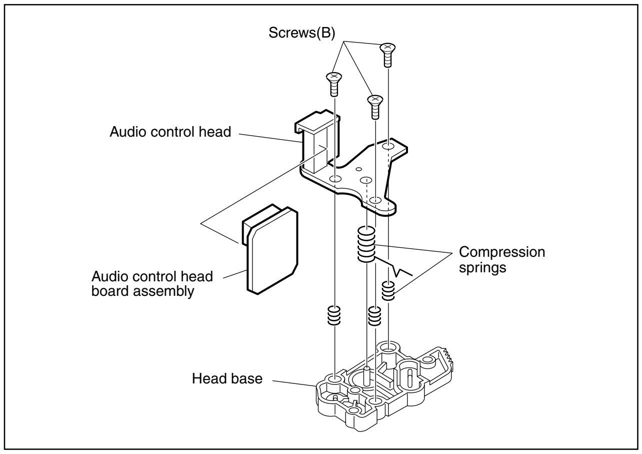

Screws(B)
Audio control head
Compression springs
Audio control head board assembly
Head base

Fig. 2-2-6b

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-6c. Also make sure that the screw center (centre) is brought into alignment with the center (centre) position of the slot.

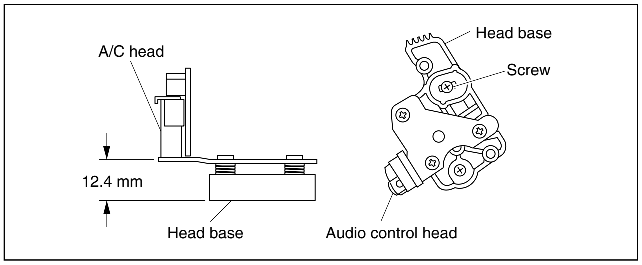

A/C head
Head base
Screw
12.4 mm
Head base
Audio control head

Fig. 2-2-6c

2.2.7 Loading Motor

1. How to remove

(1) Remove the belt wound around the worm gear.

(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.

(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)

(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-7a.

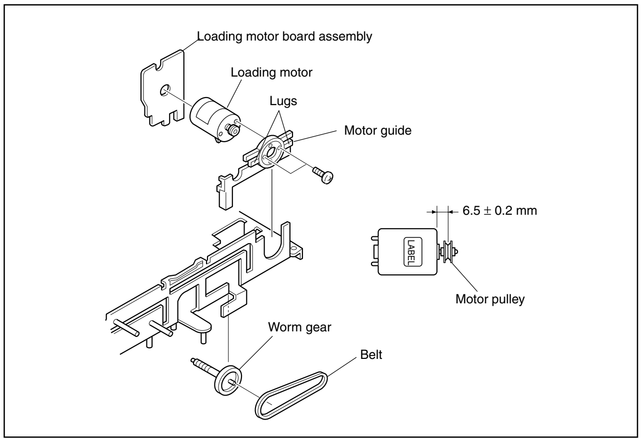


Fig. 2-2-7a

2.2.8 Capstan Motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

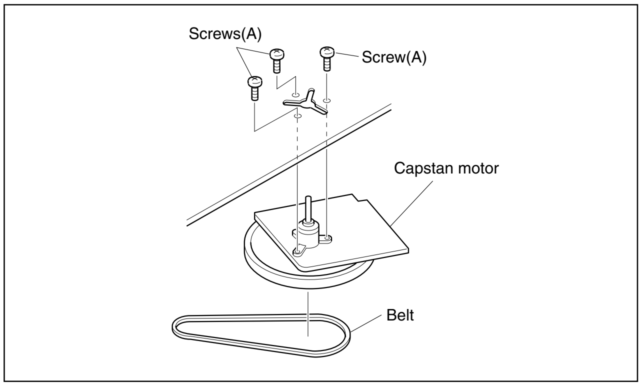


Fig. 2-2-8a

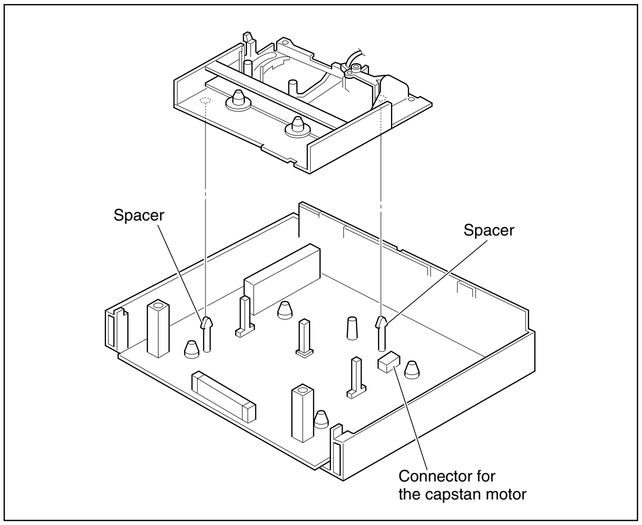


Fig. 2-2-8b

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.

(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-8b.
(3) Making sure that the connector for the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note:

- ***When the capstan motor has been replaced with a new one, perform recording in the EP(or LP) mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).***

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the “Procedures for Lowering the Cassette holder assembly” of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

Note:

- ***After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.***

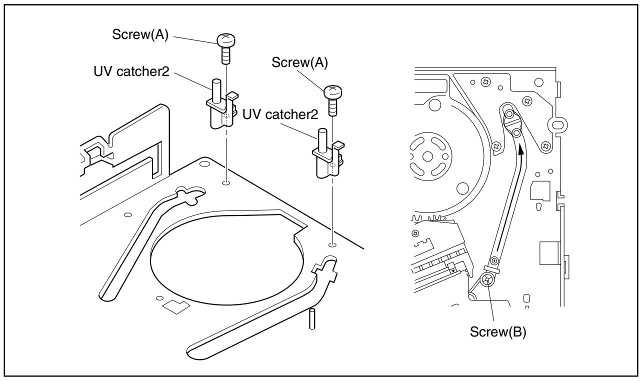


Fig. 2-2-9a

2.2.10 Rotary Encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-10a.)

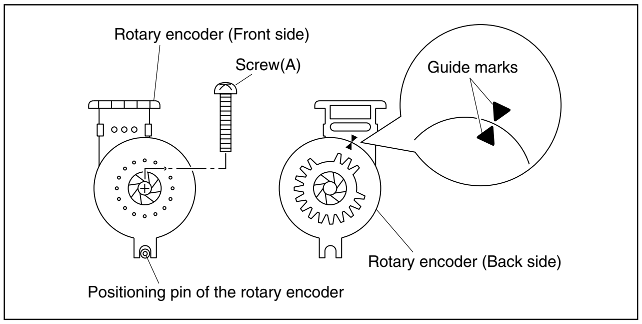

Rotary encoder (Front side)
Screw(A)
Guide marks
Rotary encoder (Back side)
Positioning pin of the rotary encoder

Fig. 2-2-10a

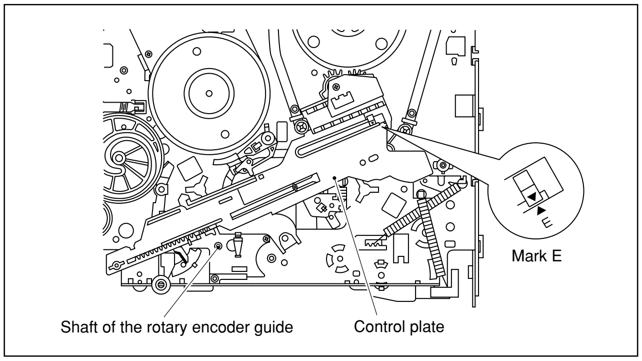

E
Mark E
Shaft of the rotary encoder guide
Control plate

Fig. 2-2-10b

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-10a. (See Fig. 2-2-10a and Fig. 2-2-10b.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

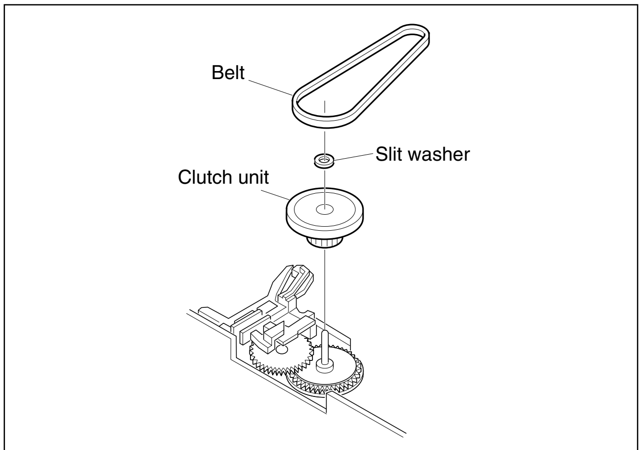

Belt
Slit washer
Clutch unit

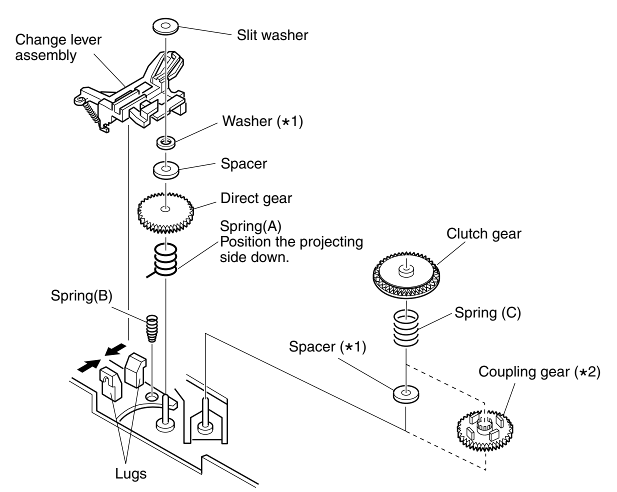
Fig. 2-2-11a

2.2.12 Change Lever Assembly, Direct Gear, Clutch Gear and Coupling Gear

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-12a.)


Change lever assembly
Slit washer
Washer (⋆1)
Spacer
Direct gear
Spring(A)
Position the projecting side down.
Clutch gear
Spring(B)
Spring (C)
Spacer (⋆1)
Coupling gear (⋆2)
Lugs

Note:
- The parts with marked (⋆) have different types of mechanisms (standard type or high-speed FF/REW type).

⋆1 : Uses the standard type mechanism only.
⋆2 : Uses the high-speed FF/REW type mechanism only.

Fig. 2-2-12a

2. How to install

(1) Install the clutch gear, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-12a.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear and catch it from the both sides with the assembly. (See Fig.2-2-12b.)

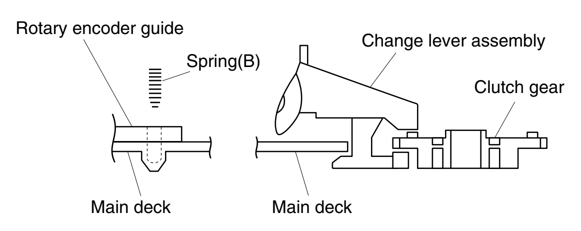

Rotary encoder guide
Spring(B)
Change lever assembly
Clutch gear
Main deck
Main deck

Fig. 2-2-12b

2.2.13 Link Lever

1. How to remove

(1) Remove the two slit washers.

(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

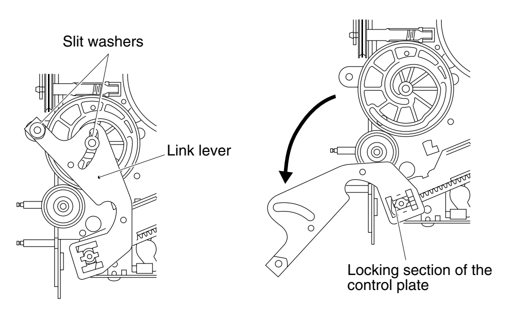

Slit washers
Link lever
Locking section of the control plate

Fig. 2-2-13a

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-13b.)

(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-13c.)

(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-13a.)

(4) Rotate the link lever clockwise so that it is installed on the shafts in the center (centre) and on the left of the control cam.

(5) Fasten the slit washers at these two points.

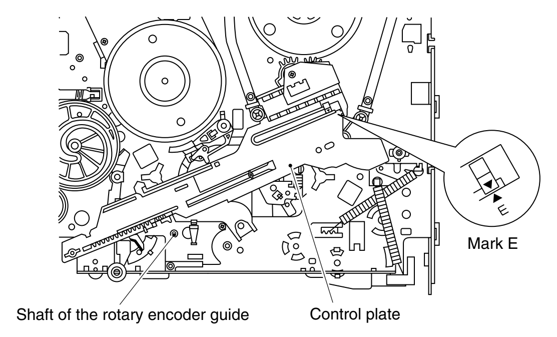

E
Mark E
Shaft of the rotary encoder guide
Control plate

Fig. 2-2-13b

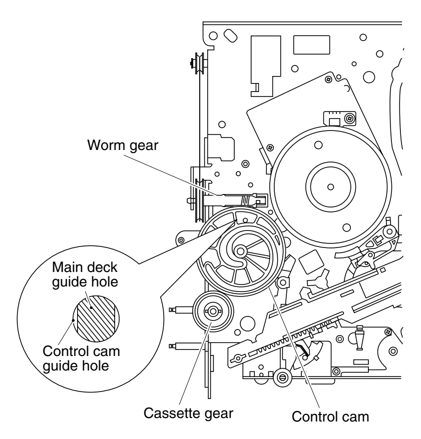

Worm gear
Main deck guide hole
Control cam guide hole
Cassette gear
Control cam

Fig. 2-2-13c

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

(1) Remove the control cam by lifting it.

(2) Open the two lugs of the cassette gear outward and pull the latter off.

(3) Remove the belt wound around the worm gear and the loading motor.

(4) Open the lug of the lid guide outward and remove the worm gear.

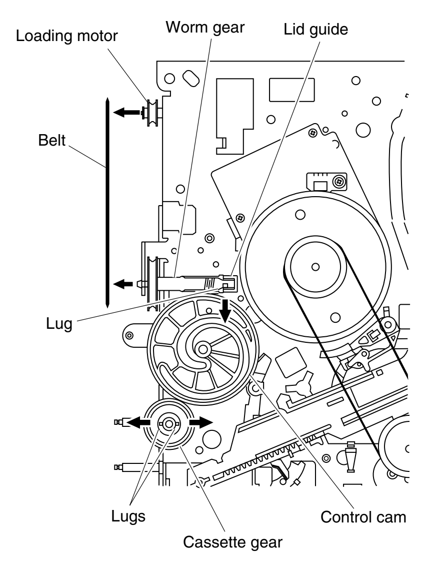

Loading motor
Worm gear
Lid guide
Belt
Lug
Lugs
Cassette gear
Control cam

Fig. 2-2-14a

2.2.15 Control Plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.

(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-15a.)

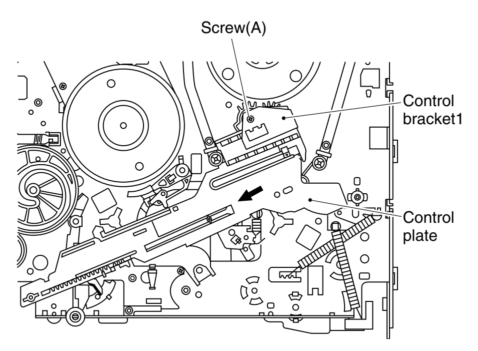

Screw(A)
Control bracket1
Control plate

Fig. 2-2-15a

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-15b (to the left of center (centre) of the R section).

(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-15c.)

(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-15c.)

(5) Pull off the hexagonal wrench for positioning.

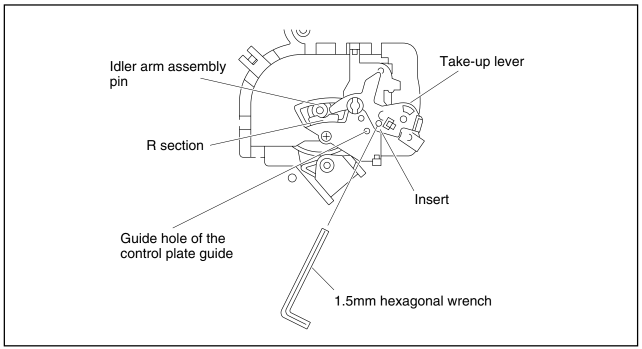

Idler arm assembly pin
Take-up lever
R section
Insert
Guide hole of the control plate guide
1.5mm hexagonal wrench

Fig. 2-2-15b

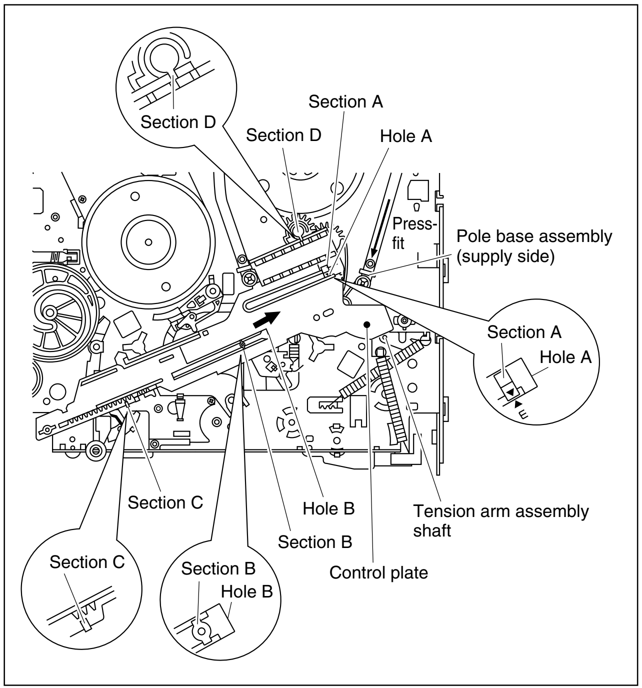

Section D
Section A
Section D
Hole A
Press-fit
Pole base assembly (supply side)
Section A
Hole A
E
Section C
Hole B
Tension arm assembly shaft
Section B
Control plate
Section C
Section B
Hole B

Fig. 2-2-15c

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-16a.)

(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-16a.)

(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-16a and Fig. 2-2-16b.)

(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

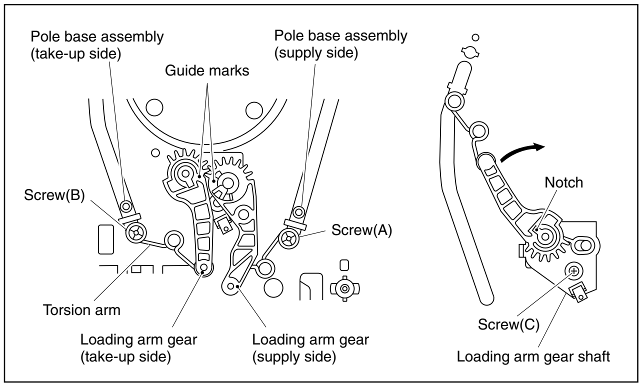

Pole base assembly (take-up side)
Pole base assembly (supply side)
Guide marks
Screw(B)
Notch
Screw(A)
Torsion arm
Loading arm gear (take-up side)
Loading arm gear (supply side)
Screw(C)
Loading arm gear shaft

Fig. 2-2-16a

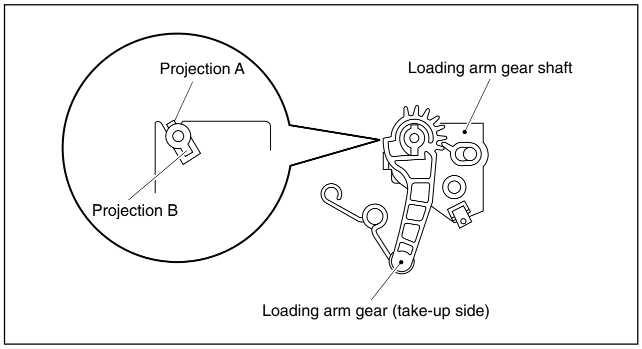

Projection A
Loading arm gear shaft
Projection B
Loading arm gear (take-up side)

Fig. 2-2-16b

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-16b.)

(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).

(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-16a.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

(1) Remove the spring of the take-up lever from the main deck.
(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
(3) Remove the screw (A).
(4) Align the idler arm assembly pin in the center (centre) of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

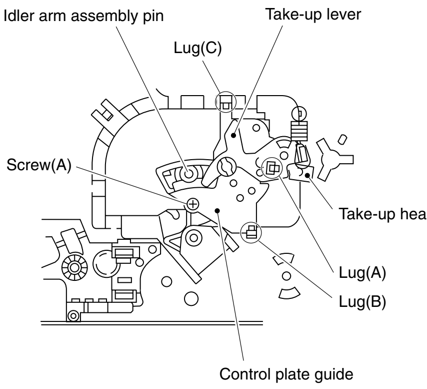

Idler arm assembly pin
Take-up lever
Lug(C)
Screw(A)
Take-up head
Lug(A)
Lug(B)
Control plate guide

Fig. 2-2-17a

2.2.18 Capstan Brake Assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-18a.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

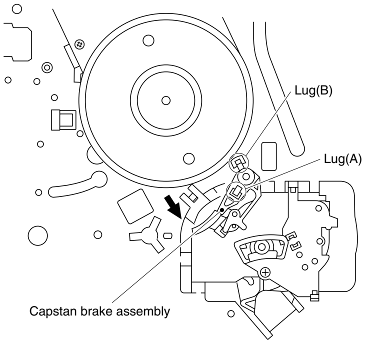

Lug(B)
Lug(A)
Capstan brake assembly

Fig. 2-2-18a

2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

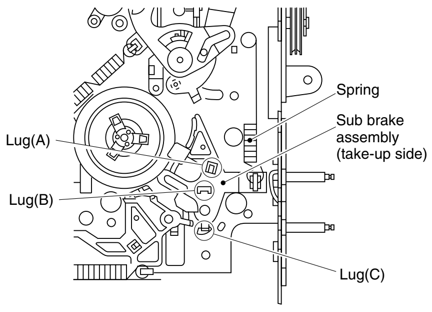

Spring
Sub brake assembly (take-up side)
Lug(A)
Lug(B)
Lug(C)

Fig. 2-2-19a

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-20a.)
(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-20b.)

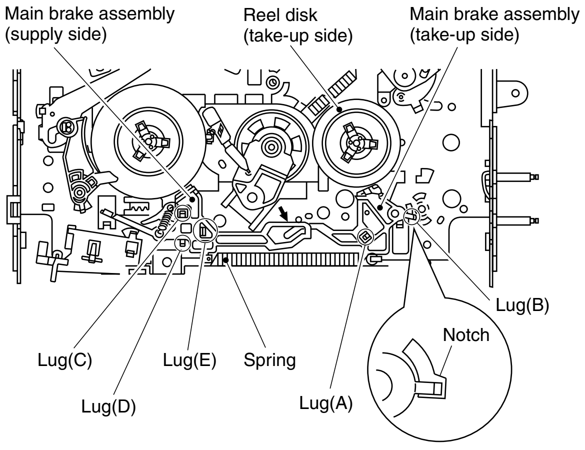
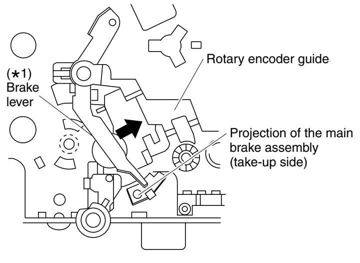

Main brake assembly (supply side)
Reel disk (take-up side)
Main brake assembly (take-up side)
Lug(B)
Notch
Lug(C)
Lug(E)
Spring
Lug(D)
Lug(A)

Fig. 2-2-20a


(⋆1) Brake lever
Rotary encoder guide
Projection of the main brake assembly (take-up side)

Note:
- ***The parts with marked (⋆) have different types of mechanisms (standard type or high-speed FF/REW type).***

⋆1 : Uses the standard type mechanism only.

Fig. 2-2-20b

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.

(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).

(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-21a.)

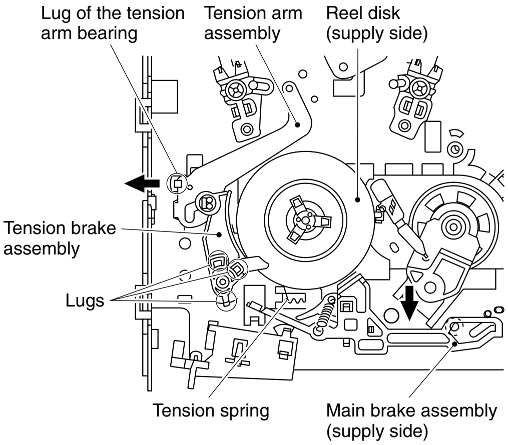

Lug of the tension arm bearing
Tension arm assembly
Reel disk (supply side)
Tension brake assembly
Lugs
Tension spring
Main brake assembly (supply side)

Fig. 2-2-21a

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.

(2) Remove the slit washer and pull out the idler arm assembly.

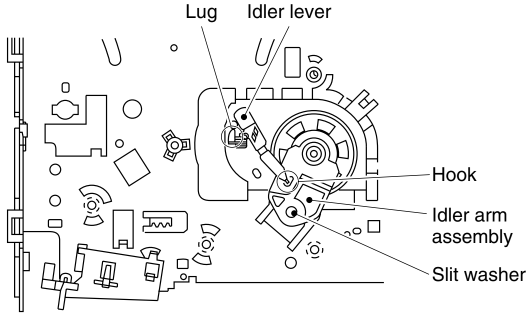

Lug
Idler lever
Hook
Idler arm assembly
Slit washer

Fig. 2-2-22a

2.2.23 Stator Assembly

(1) Remove the flat cable.

(2) Remove the two screws (A).

(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

(4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

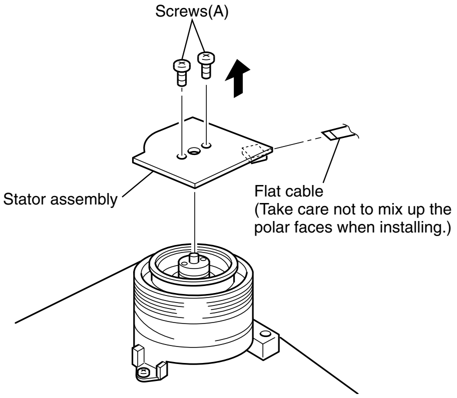

Screws(A)
Stator assembly
Flat cable
(Take care not to mix up the polar faces when installing.)

Fig. 2-2-23a

2.2.24 Rotor Assembly

(1) Remove the stator assembly.

(2) Remove the two screws (B) and remove the rotor assembly.

Note:

- ***When installing the rotor assembly, note that a normal picture cannot be obtained without ensuring the phase matching as mentioned below.***

(3) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-24a.

(4) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-24a.)

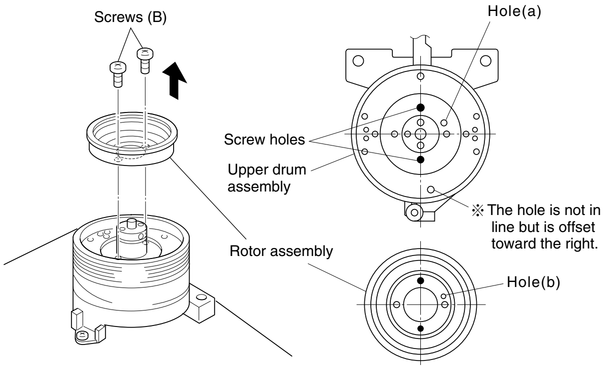

Screws (B)
Hole(a)
Screw holes
Upper drum assembly
※The hole is not in line but is offset toward the right.
Rotor assembly
Hole(b)

Fig. 2-2-24a

2.2.25 Upper Drum Assembly

1. How to remove

(1) Remove the stator assembly and rotor assembly.

(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.

(3) Remove the upper drum assembly and remove the washer using tweezers.

Note:

- ***When replacement is required, control the up- down movement of the brush. Never apply grease.***

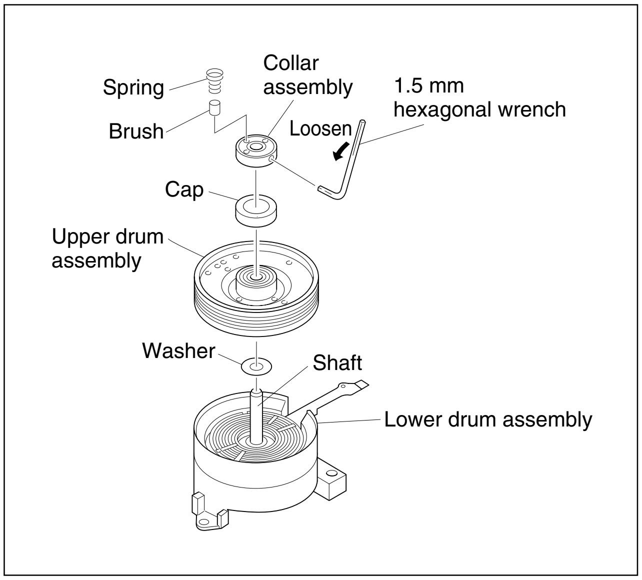

Spring
Collar assembly
1.5 mm hexagonal wrench
Brush
Loosen
Cap
Upper drum assembly
Washer
Shaft
Lower drum assembly

Fig. 2-2-25a

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-25b.)

(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-25a.)

Note:

- ***When replacing the upper drum assembly, replace it the together with the washer.***

(3) Install the cap to the upper drum assembly.

(4) Position the collar assembly as indicated in Fig.2-2-25c while controlling its up- down movement.

(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.

(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.

(7) Install the rotor assembly and stator assembly according to Fig 2-2-23a and 2-2-24a.

(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.

- PB switching point adjustment
- Slow tracking adjustment
- Compatibility adjustment (Be sure to check for compatibility for the EP (or LP) mode.)

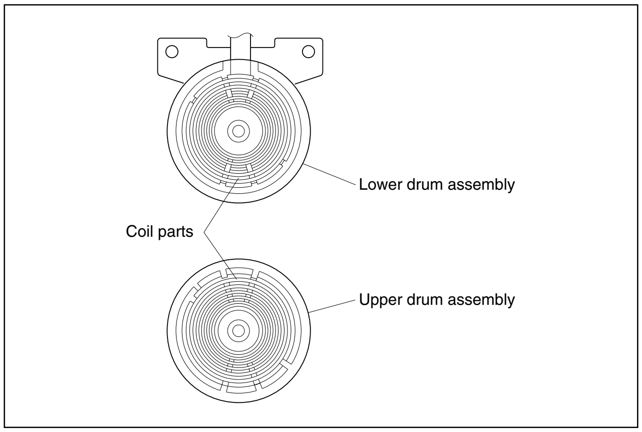

Lower drum assembly
Coil parts
Upper drum assembly

Fig. 2-2-25b

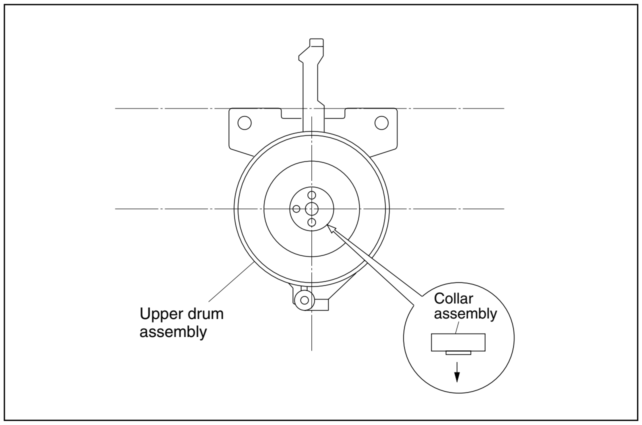

Upper drum assembly
Collar assembly

Fig. 2-2-25c

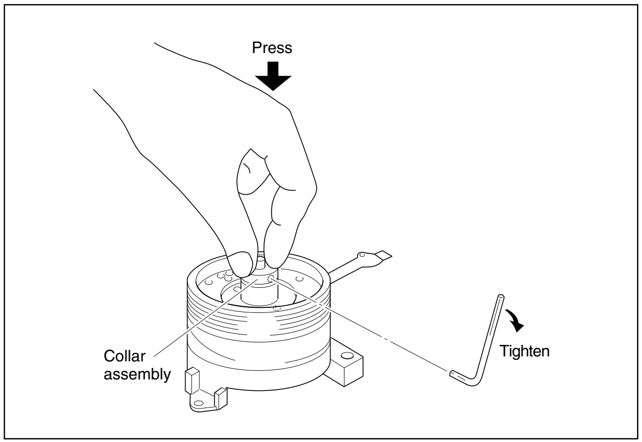

Press
Tighten
Collar assembly

Fig. 2-2-25d

2.3 COMPATIBILITY ADJUSTMENT

Notes:

- ***Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.***
- ***To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.***
- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

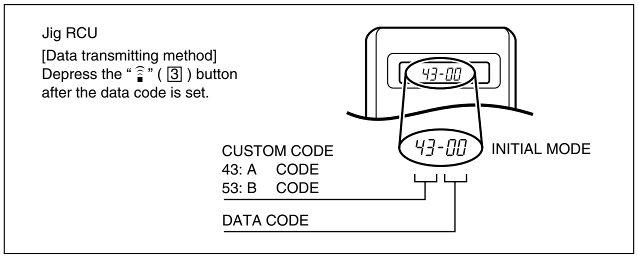

Jig RCU
[Data transmitting method]
Depress the “📶” (3) button
after the data code is set.
43-00
43-00
CUSTOM CODE
43: A CODE
53: B CODE
INITIAL MODE
DATA CODE

Fig. 2-3a Jig RCU [PTU94023B]

2.3.1 Checking/Adjustment of FM Waveform Linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, NTSC) [MHP] • Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-3-1a.)
(5) Reduce the V.PB FM waveform while pressing the channel buttons (+, –) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 2-3-1c.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 2-3-1d.)

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

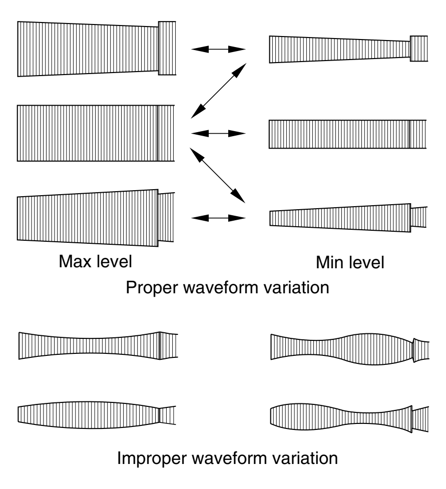


Fig. 2-3-1a

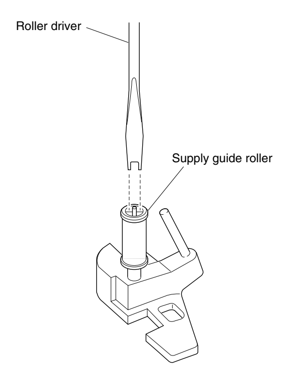


Fig. 2-3-1b

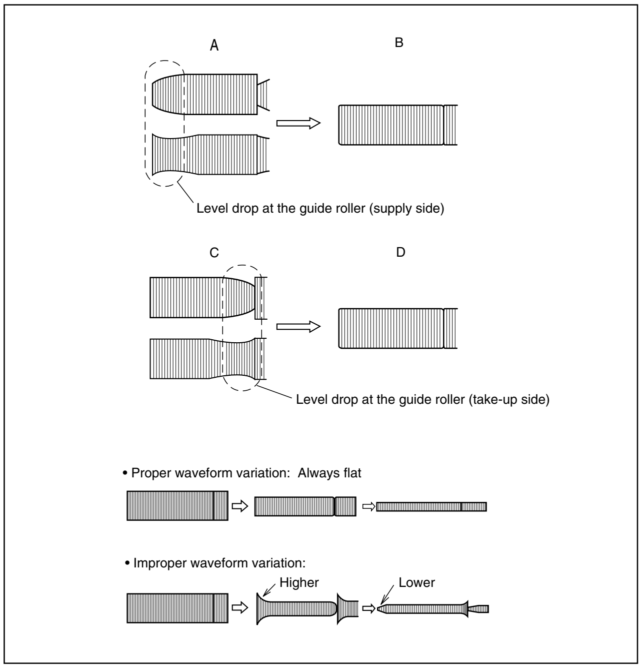

A
B
Level drop at the guide roller (supply side)
C
D
Level drop at the guide roller (take-up side)
• Proper waveform variation: Always flat
• Improper waveform variation:
Higher
Lower

Fig. 2-3-1c

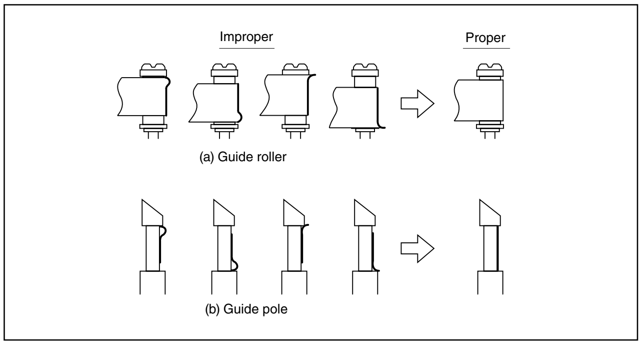

Improper
Proper
(a) Guide roller
(b) Guide pole

Fig. 2-3-1d

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-6c.)***

Signal	(A)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

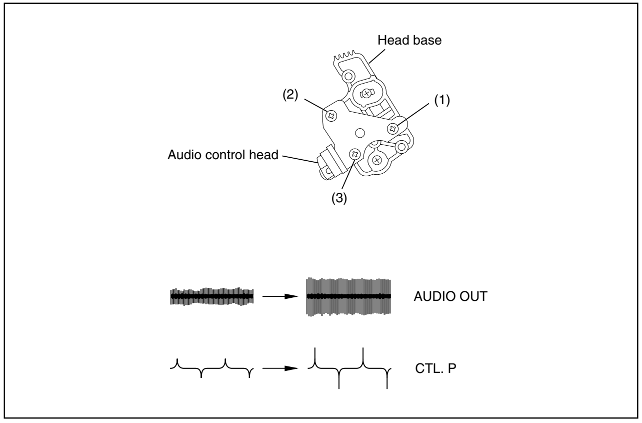

Head base
(2)
(1)
Audio control head
(3)
AUDIO OUT
CTL. P

Fig. 2-3-2a

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

Signal	(A1)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Loosen the screws (4) and (5), then set the A/C head positioning tool to the innermost projected part of the A/C head. (See Fig. 2-3-3a.)
(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the V.PB FM waveform output level. Then tighten the screws (4) and (5).
(6) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

[Perform adjustments steps (7) to (10) only for 2 Head models equipped with LP mode.]

(7) Then play back the alignment tape (A2).
(8) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(9) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
(10) If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 2.3.4.***

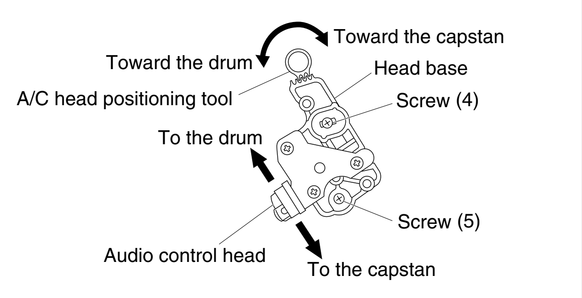


Fig. 2-3-3a

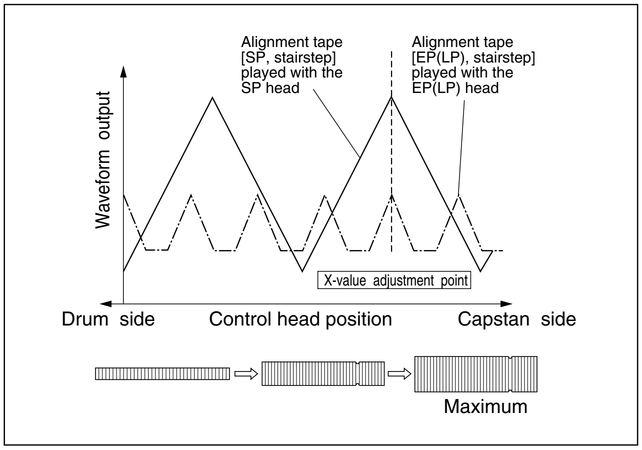


Fig. 2-3-3b

2.3.4 Checking/Adjustment of the Standard Tracking Preset

Signal	(A)	• Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB → Auto adjust
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “50”
Specified value	(G)	• STOP mode (Maximum V.PB FM waveform)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

2.3.5 Checking/Adjustment of the Tension Pole Position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm (2.45 – 5 × 10^{-3} Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.
   1) Set the VCR to the mechanism service mode. (See 1.5 MECHANISM SERVICE MODE.)
   2) Set the VCR to the play back mode and adjust by turning adjustment pin to align the tension arm assembly edge with the main deck hole (A) on the right edge marker. (See Fig. 2-3-5a)

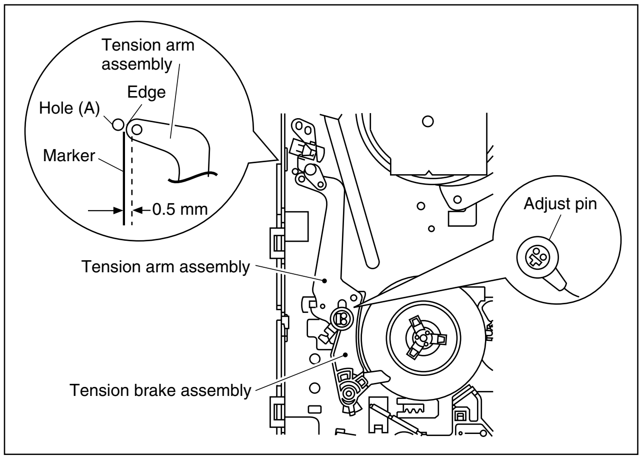
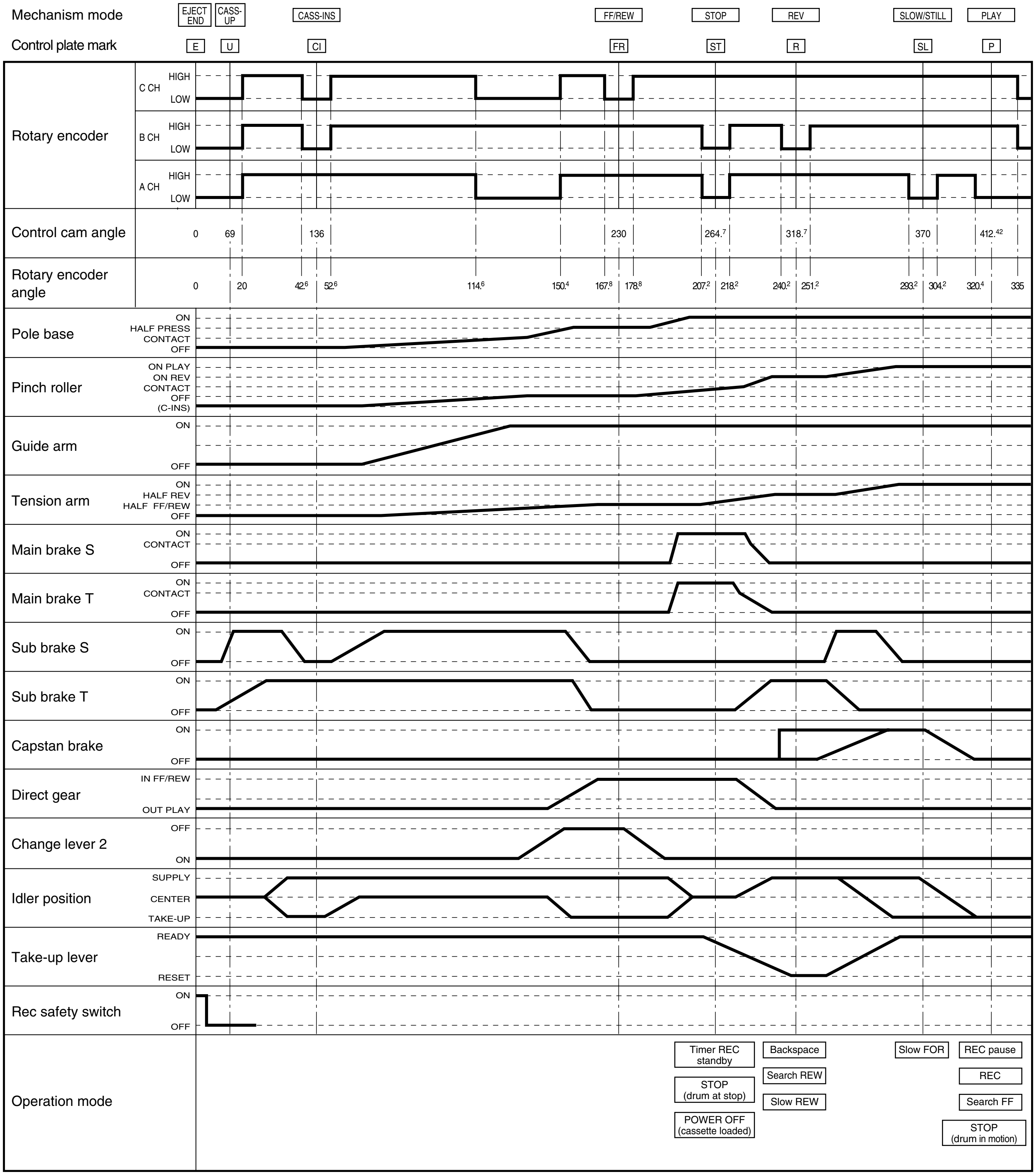


Fig. 2-3-5a

Mechanism Timing Chart



Mechanism mode
EJECT END
CASS-UP
CASS-INS
FF/REW
STOP
REV
SLOW/STILL
PLAY
Control plate mark
E
U
CI
FR
ST
R
SL
P
Rotary encoder
C CH
B CH
A CH
HIGH
LOW
Control cam angle
0
69
136
230
$264.^{7}$
$318.^{7}$
370
$412.^{42}$
Rotary encoder angle
0
20
42^{6}
52^{6}
114^{6}
150^{4}
167^{8}
178^{8}
207^{2}
218^{2}
240^{2}
251^{2}
293^{2}
304^{2}
320^{4}
335
Pole base
ON
HALF PRESS
CONTACT
OFF
Pinch roller
ON PLAY
ON REV
CONTACT
OFF
(C-INS)
Guide arm
ON
OFF
Tension arm
ON
HALF REV
HALF FF/REW
OFF
Main brake S
ON
CONTACT
OFF
Main brake T
ON
CONTACT
OFF
Sub brake S
ON
OFF
Sub brake T
ON
OFF
Capstan brake
ON
OFF
Direct gear
IN FF/REW
OUT PLAY
Change lever 2
OFF
ON
Idler position
SUPPLY
CENTER
TAKE-UP
Take-up lever
READY
RESET
Rec safety switch
ON
OFF
Operation mode
Timer REC standby
STOP (drum at stop)
POWER OFF (cassette loaded)
Backspace
Search REW
Slow REW
Slow FOR
REC pause
REC
Search FF
STOP (drum in motion)

SECTION 3
ELECTRICAL ADJUSTMENT

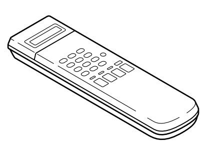
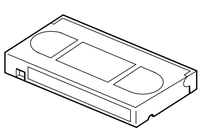
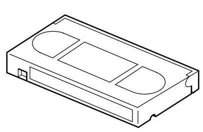
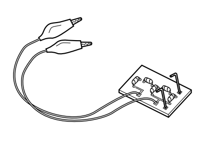
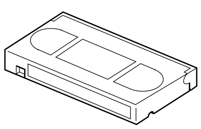
3.1 PRECAUTION

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.1.1 Required test equipments

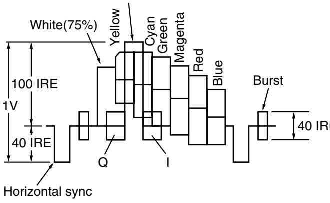
- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Frequency counter
- Audio level meter
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [NTSC]
- Recording tape
- Digit-key remote controller(provided)

3.1.2 Required adjustment tools

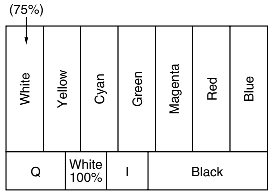
Jig RCU PTU94023B	Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (EP, stairstep, NTSC) MHP-L
		
LPF PTU93006	Alignment tape (S-VHS, SP/EP, color (colour) bar) MH-1H	
		

3.1.3 Color (colour) bar signal,Color (colour) bar pattern

- **Color bar signal [NTSC]**



- **Color bar pattern [NTSC]**



3.1.4 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- ***When using the Jig RCU, set its custom code to match the custom code of the VCR.***

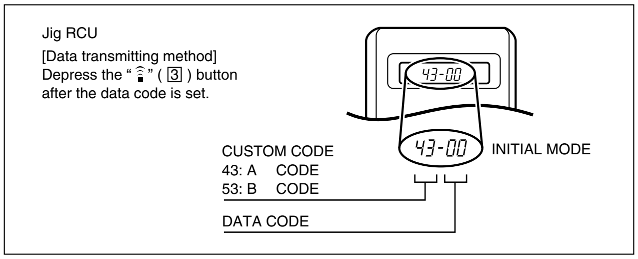

Jig RCU
[Data transmitting method]
Depress the " " (3) button
after the data code is set.
43-00
43-00
INITIAL MODE
CUSTOM CODE
43: A CODE
53: B CODE
DATA CODE

Fig. 3-1-4a Jig RCU [PTU94023B]

- ***Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.***
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF

- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***In the Signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.***

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The Main board assembly have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- ***In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.***
- ***When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.***
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- ***As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.***
- ***When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.***

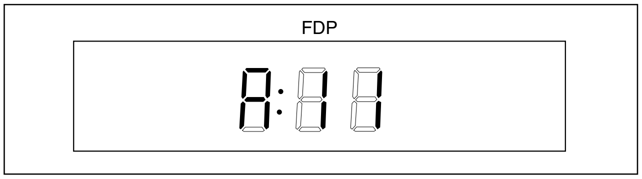


Fig. 3-1-5a EVR mode

3.2 SERVO CIRCUIT

3.2.1 Switching point

Signal	(A1) (A2)	• Stairstep signal • Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal (75Ω terminated) • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)/slope : –
Adjustment part	(F)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 8.0 ± 0.5H
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Adjust tracking by pressing the channel buttons (+, –) so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.

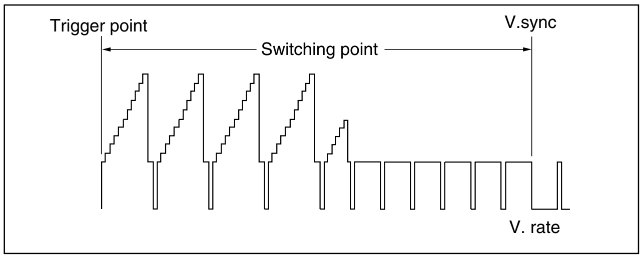


Fig. 3-2-1a Switching point

3.2.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• S-VHS SP • S-VHS EP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code “71“ or “72”
Specified value	(G)	• Minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(3) Set the VCR to the FWD slow mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- ***For FWD slow (+1/6×) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6×) mode.***

3.2.3 Dynamic Drum preset

Signal	(A1) (A2) (A3)	• Alignment tape(EP, stairstep, NTSC) [MHP-L] • Ext. input • Stairstep signal
Mode	(B1) (B2) (B3)	• EP 3× (FWD) search • EP • EP 1/6× (FWD) slow
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)/slope : +
Adjustment part	(F)	• Jig RCU: Code “A0” or “A1”
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Play back the signal (A3) of the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E) to observe the V.PB FM waveform at the measuring point (D).
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Adjust tracking by pressing the channel buttons (+, –) so that the V.PB FM waveform becomes maximum.
(5) Set the VCR to the mode (B1).
(6) Adjust tracking by pressing the channel buttons (+, –) so that the V.PB FM waveform becomes half of the maximum value.
(7) Transmit the code (F) from the Jig RCU to adjust so that the V.PB FM waveform becomes the specified value (G).
(8) Set the VCR to the PB mode once, set the VCR to the mode (B1) again and confirm that the V.PB FM waveform is the specified value (G). If the specified value (G) is not obtained, repeat step (7).
(9) Record the signal (A3) in the mode (B2), and play back the recorded signal.
(10) Repeat steps (3) to (8), for perform step (5) in the mode (B3).

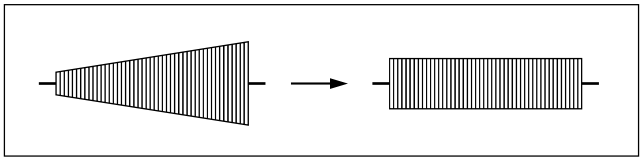


Fig. 3-2-3a DD preset

3.3 VIDEO CIRCUIT

3.3.1 D/A level

Signal	(A1) (A2) (A3)	• Ext. S-input / Ext. input • Color (colour) bar signal [NTSC] • S-VHS tape
Mode	(B)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• VIDEO OUT terminal (75Ω terminated)
Adjustment part	(F)	• VR1401 (D/A LEVEL ADJ) [3D DIGITAL/4M board]
Specified value (Note)	(G)	• 1.00 ± 0.015 Vp-p (reference value)

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the VIDEO OUT waveform at the measuring point (D).
(3) Check the Y level value when the External S-input (Y/C separated video signal).
(4) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (3).

Note:

- ***The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (3).***

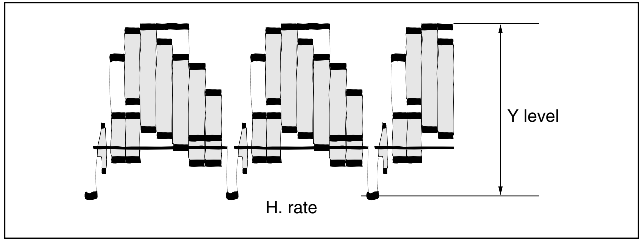


Fig. 3-3-1a D/A level

3.3.2 EE Y level

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B)	• EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code “57”
EVR address	(F2)	• A:11 (Press remote controller “1” key twice)
Specified value	(G)	• 1.00 ± 0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(3) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(4) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(5) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

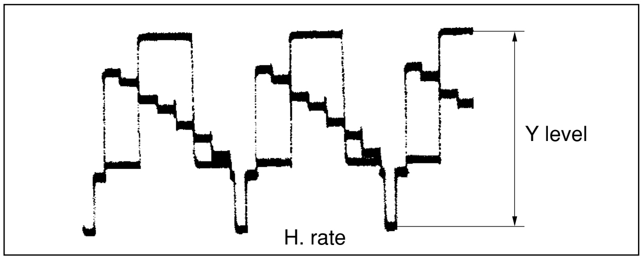


Fig. 3-3-2a EE Y level

3.3.3 PB Y level (S-VHS / VHS)

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• S-VHS SP • VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode	(F1)	• Jig RCU: Code “57”
EVR address	(F2)	• A:11 (Press remote controller “1” key twice)
Specified value	(G)	• 1.00 ± 0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Observe the Y OUT waveform at the measuring point (D).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(6) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the Y level of the Y OUT waveform becomes the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

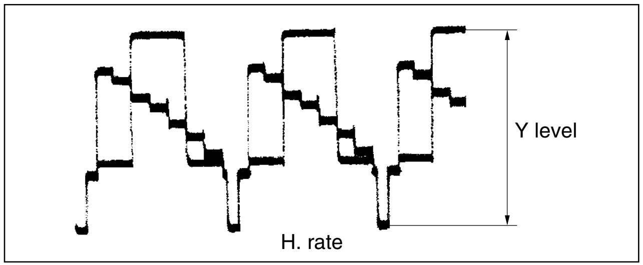


Fig. 3-3-3a PB Y level

3.3.4 REC color (colour) level

Signal	(A1) (A2) (A3)	• Alignment tape(S-VHS, SP/EP, Color(colour) bar) [MH-1H] • Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• S-VHS SP • S-VHS EP
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB. FM) • PB color (colour) output of the LPF
External trigger	(E)	• TP111 (D.FF)
EVR mode	(F1)	• Jig RCU: Code “57”
EVR address	(F2)	• A:02 (Press remote controller “0” and “2” keys)
Specified value	(G)	• SP: “B” x 125 ± 5% • EP: “B” x 125 ± 5%
Adjustment tool	(H1) (H2) (H3)	• Jig RCU [PTU94023B] • Digit-key remote controller • LPF [PTU93006] (See Fig. 3-3-4a.)

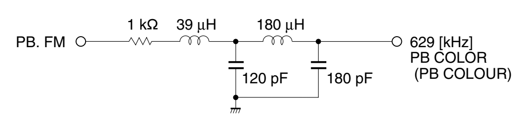


Fig. 3-3-4a LPF

(1) Connect the adjustment tool (H3) to the measuring point (D1).
(2) Apply the external trigger signal to D.FF (E) to observe the PB color (colour) waveform at the measuring point (D2).
(3) Play back the signal (A3) in the mode (B1) of the alignment tape (A1).
(4) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(5) Adjust tracking by pressing the channel buttons (+, –) so that the PB color (colour) waveform becomes maximum. Make a note of the higher PB color (colour) level as “B” at this time.
(6) Record the signal (A3) in the mode (B1), and play back the recorded signal.
(7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(8) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(9) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-4b. (Adjust before recording, then confirm it by playing back.)
(10) After adjustment, record the signal (A3) then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the playback screen.
(11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(12) Repeat steps (3) to (11) in the mode (B2).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 3.4.1.***

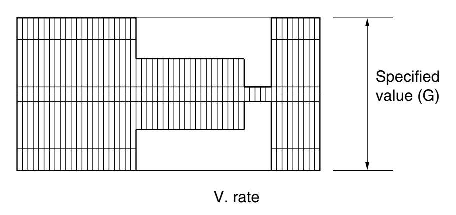


Fig. 3-3-4b REC color (colour) level

3.3.5 Video EQ (Frequency response)

Signal	(A1) (A2)	• Ext. S-input • Video sweep signal
Mode	(B1) (B2) (B3)	• S-VHS SP • S-VHS EP • Picture Control / Smart Picture REC : Normal / Natural PB : Edit / Distinct
Equipment	(C)	• Oscilloscope
Measuring point	(D1)	• Y OUT terminal (75Ω terminated)
Frequency marker	(D2)	• 3 [MHz]
External trigger	(E)	• TP111 (D.FF)
EVR mode	(F1)	• Jig RCU: Code “57”
EVR address	(F2)	• A:03 (Press remote controller “0” and “3” keys)
Specified value	(G)	• SP: 3.2 ± 0.2 div. (–2 ± 0.5 dB) • EP: 2.8 ± 0.2 div. (–3 ± 0.5 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D1).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(6) Set the slope of the oscilloscope to the channel having higher (D2) marker level of the Y OUT waveform [signal (A2)]. Then set the 100 kHz marker level to the “4” scale on the oscilloscope. In this condition, adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the (D2) marker level reaches the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

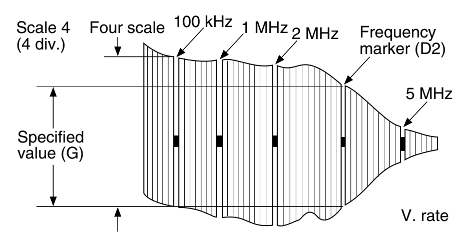


Fig. 3-3-5a Video EQ (Frequency Response)

3.3.6 AUTO PICTURE initial setting

Signal	(A1) (A2) (A3)	• Ext. input • Video: Optional • VHS tape
Mode	(B)	• EE → Auto adjust (SP/EP REC → PB)
Adjustment part	(F)	• Jig RCU : Code “58”
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (2) again.

3.4 AUDIO CIRCUIT

Notes:

- ***This adjustment should be done after the “REC color (colour) level adjustment” for the video circuit has been completed.***
- ***GND (Ground) should be taken from the Tuner shield case.***

3.4.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [NTSC]
Mode	(B)	• S-VHS EP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. FM)
External trigger	(E)	• TP111 (D.FF)
EVR mode	(F1)	• Jig RCU: Code “57”
EVR address	(F2)	• A: 30 (Press remote controller “3” and “0” keys.)
Specified value	(G1) (G2)	• 500 ± 100 mVp-p • More than 350 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Press the channel buttons (+, –) simultaneously to enter the manual tracking mode. This also brings tracking to the center (centre).
(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(6) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(7) Adjust with the channel buttons (+, –) on the VCR (or on the remote controller) so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(8) If the specified value (G1) is not obtained, adjust with the channel buttons (+, –) so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)
(9) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

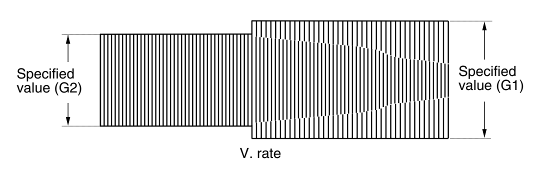


Fig. 3-4-1a Audio REC FM

3.5 DEMODULATOR CIRCUIT

Notes:

- ***Unless otherwise specified in this demod circuit adjustments, all measuring points and adjustment parts are located on the Demod board.***
- ***Unless otherwise specified,set an audio multiplex TV signal generator as follows;***
  RF signal : 70 dBμ / 75Ω, color bar 87.5% modulation.

3.5.1 Input level

Signal	(A)	• RF signal (Audio: mono 300 Hz)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC1501 pin 26
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 20 (Press remote controller “2” and “0” keys.)
Specified value	(G)	• 500 ± 10 mVrms
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Set an audio signal mode of the RF signal generator to mono 300 Hz.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.2 Stereo VCO

Signal	(A)	• No signal
Mode	(B)	• Tuner • EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC1501 pin 26
Short point	(D2)	• C1505(–) terminal
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 21 (Press remote controller “2” and “1” keys.)
Specified value	(G)	• 15.73 ± 0.1 kHz
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Connect the short wire between the short point (D2) and the GND (Ground).
(2) Connect the equipment (C) to the measuring point (D1).

(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the frequency of the measuring point (D1) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Disconnect the short wire between the short point (D2) and the GND (Ground).

3.5.3 Stereo filter

Signal	(A)	• RF signal (Audio: No signal)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• IC1501 pin 26
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 22 (Press remote controller “2” key twice.)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Set an audio signal mode of the RF signal generator to no signal.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.4 Separation - 1

Signal	(A)	• RF signal (Audio: L-ch 300 Hz 14% modulated)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC1501 pin 26
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 23 (Press remote controller “2” and “3” keys.)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Set an audio signal mode of the RF signal generator to alternate L-ch 300 Hz 14% modulated.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.5 Separation - 2

Signal	(A)	• RF signal (Audio: L-ch 5 kHz 14% modulated)
Mode	(B)	• Tuner
		• EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC1501 pin 26
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 24 (Press remote controller “2” and “4” keys.)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Set an audio signal mode of the RF signal generator to alternate L-ch 5 kHz 14% modulated.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the level of the measuring point(D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.6 SAP VCO

Signal	(A)	• No. signal
Mode	(B)	• Tuner • EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC1501 pin 26
Short point	(D2)	• C1505 (–) terminal
EVR mode	(F1)	• Jig RCU : Code “57”
EVR address	(F2)	• A : 25 (Press remote controller “2” and “5” keys.)
Specified value	(G)	• 78.67 ± 0.5 kHz
Adjustment tool	(H)	• Jig RCU [PTU94023B] • Digit-key remote controller

(1) Connect the short wire between the short point (D2) and the GND (Ground).
(2) Connect the equipment (C) to the measuring point (D1).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by pressing the button of the digit-key remote controller.
(5) Adjust with the channel buttons (+,–) on the VCR (or on the remote controller) so that the frequency of the measuring point (D1) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Disconnect the short wire between the short point (D2) and the GND (Ground).

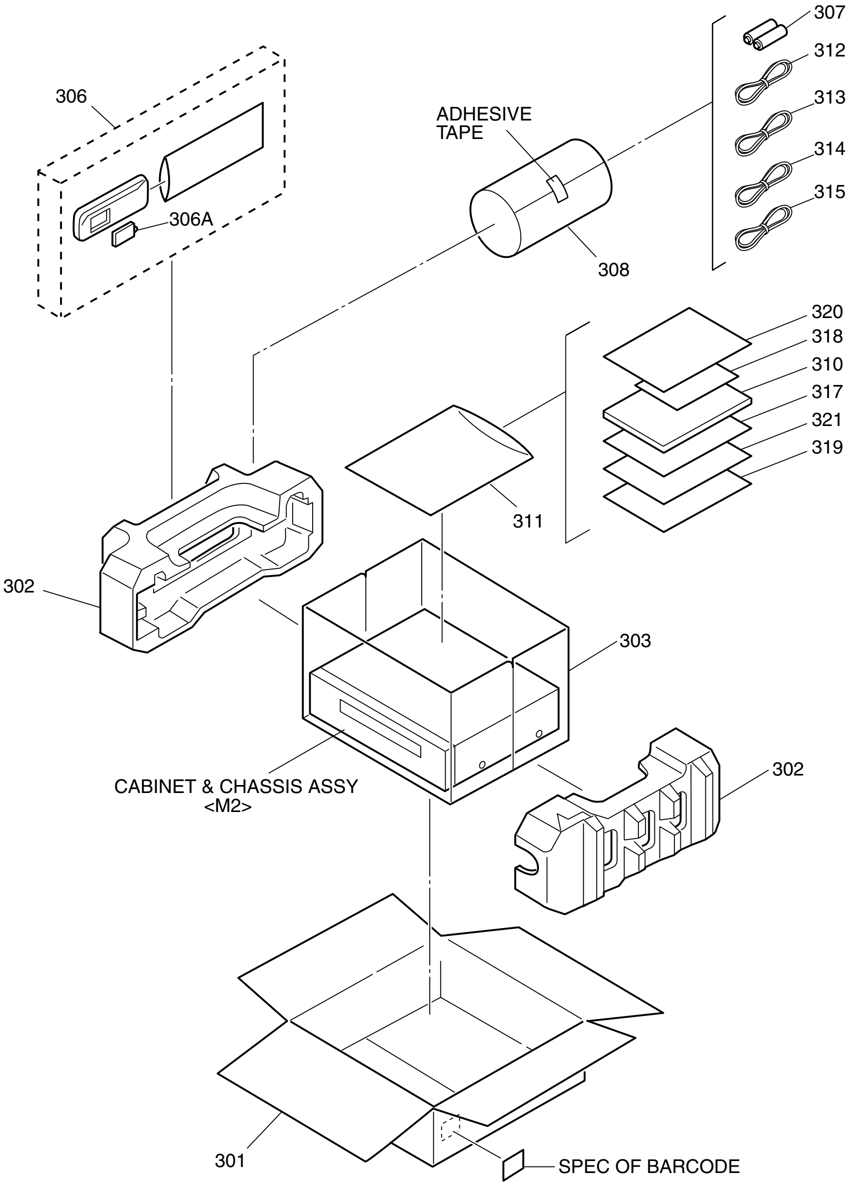
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



306
306A
ADHESIVE TAPE
308
307
312
313
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320
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317
321
319
311
302
303
CABINET & CHASSIS ASSY <M2>
302
301
SPEC OF BARCODE

✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

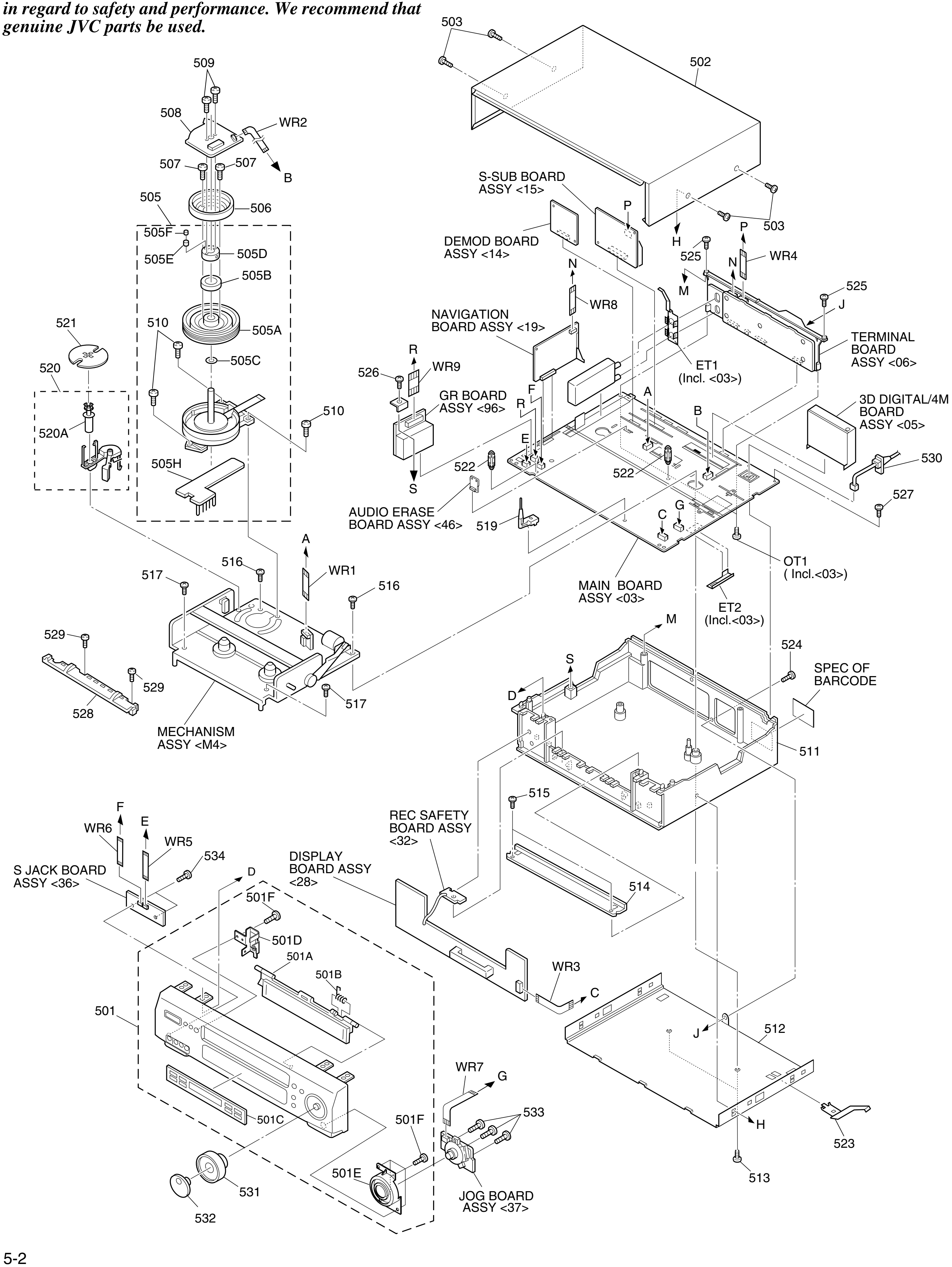
PACKING AND ACCESSORY ASSEMBLY <M1>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		301	LP30596-009B	PACKING CASE
		302	LP30605-002C	CUSHION ASSY
		303	PQM30021-95	POLY BAG
		306	LP20465-007A	REMOTE CONTROLLER
		306A	LP40254-003B	COVER(BATTERY)
		307	–	BATTERY,X2("AA"TYPE)
		308	QPC02202230P	POLY BAG
	⚠	310	LPT0350-001A	INST.BOOK(EN)
	⚠		LPT0350-003A	INST.BOOK(FR)
		311	QPC02503530P	POLY BAG
		312	PEAC0294-04	RF CABLE
		313	QAM0174-001	A/V CABLE
		314	QAL0095-004	LED CABLE ASSY(Controller)
		315	QAM0246-002	S CABLE
		317	LPT0350-002A	Q.S.SHEET
		318	LP40437-001A	LABEL(S VHS ET)
		319	BT-20071B	SER.NET CARD
		320	BT-51020-2	REGIST.CARD
		321	PU36560	CONECTION SHEET

5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.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502
509
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WR2
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507
B
505
506
505F
505E
505D
505B
S-SUB BOARD
ASSY <15>
P
503
H
P
DEMOD BOARD
ASSY <14>
N
525
N
WR4
M
525
J
WR8
NAVIGATION
BOARD ASSY <19>
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510
505A
TERMINAL
BOARD
ASSY <06>
520
505C
R
WR9
526
ET1
(Incl. <03>)
GR BOARD
ASSY <96>
F
A
3D DIGITAL/4M
BOARD
ASSY <05>
R
B
520A
510
E
530
505H
522
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S
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AUDIO ERASE
BOARD ASSY <46>
G
C
519
A
OT1
(Incl.<03>)
WR1
516
517
516
MAIN BOARD
ASSY <03>
ET2
(Incl.<03>)
M
529
524
S
SPEC OF
BARCODE
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D
528
517
511
MECHANISM
ASSY <M4>
515
REC SAFETY
BOARD ASSY
<32>
F
E
WR6
WR5
534
DISPLAY
BOARD ASSY
<28>
S JACK BOARD
ASSY <36>
D
514
501F
501D
501A
501B
WR3
C
501
J
512
WR7
G
533
501C
501F
H
523
501E
531
513
JOG BOARD
ASSY <37>
532

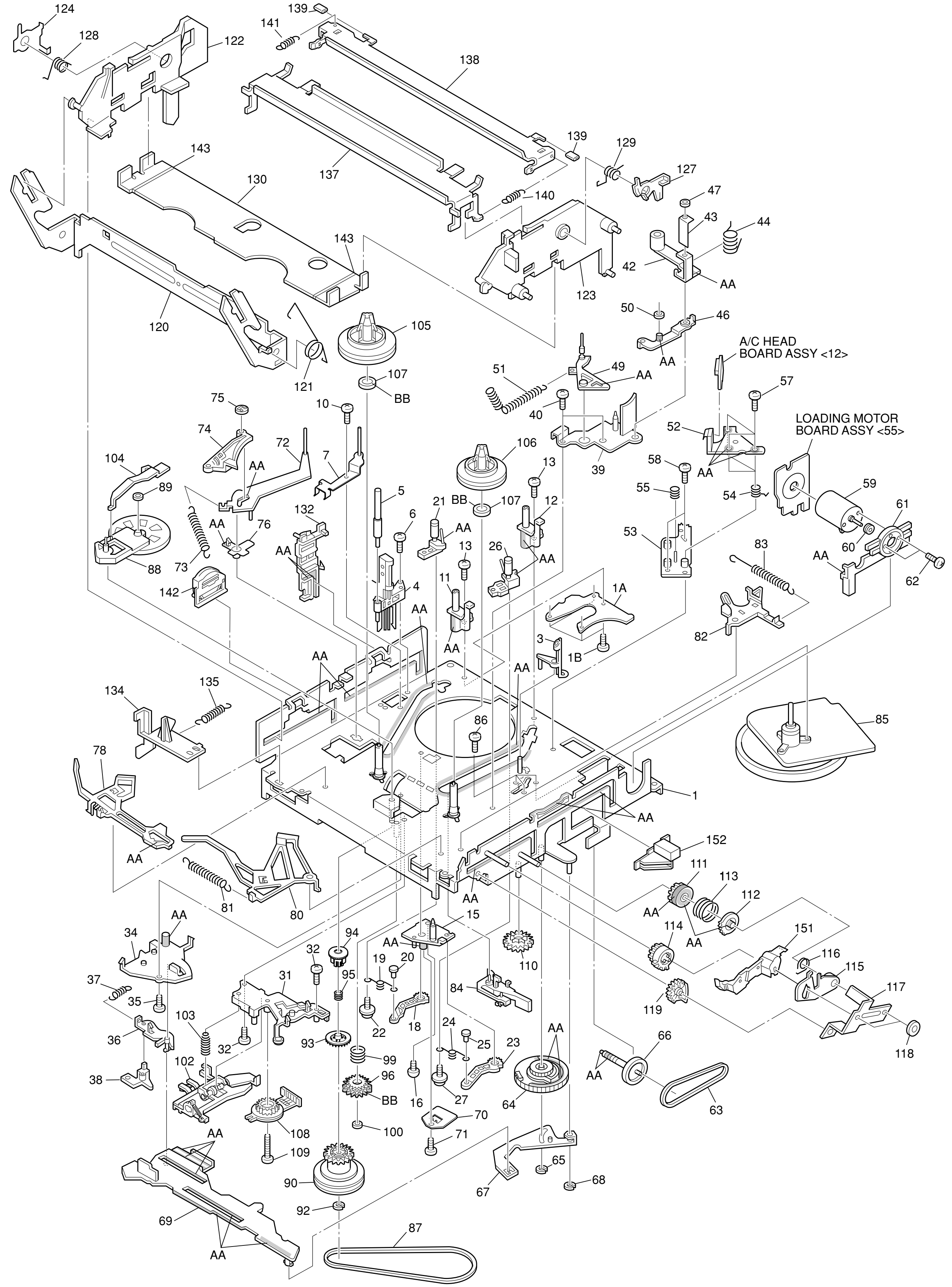
****

CABINET AND CHASSIS ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	501	LP10088-017B	FRONT PANEL ASSY
		501A	LP20716-006A	CASSETTE DOOR
		501B	PQ46448	TORSION SPRING
		501C	LP20250-007A	DISPLAY WINDOW
		501D	LP40159-001B	BRACKET(DAMPER)
		501E	LP20613-004A	ORNAMENT
		501F	SDSF2608Z	SCREW,X5
	⚠	502	PQ11922-36-7	TOP COVER
		503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
		505	LP20319-019A	DRUM SUB ASSY
		505A	LP20030-019A	UPPER DRUM ASSY
		505B	PDM4439	CAP
		505C	PDM4444-19-2	WASHER
		505D	LP40572-001A	COLLAR ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESSION SPRING
		505H	LPA20002-01C	SENSOR BOARD ASSY
		506	PDZ0179-2-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2
	⚠	508	QAR0119-001	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2
		510	QYTDST2610Z	SCREW,X3 DRUM
	⚠	511	LP10140-005F	BOTTOM CHASSIS
	⚠	512	PQ11921-1-4	BOTTOM COVER
		513	QYTDSF3010Z	SCREW,X2
		514	LP30312-001B	BRACKET(CHASSIS)
		515	QYTDSF3010Z	SCREW,X2
		516	QYTDSF4012Z	SCREW,X2 MECHA
		517	QYTDSF3010Z	SCREW,X2 MECHA
		519	LP40407-001A	KNOB ASSY
		520	LP40370-001E	ROLLER ARM ASSY
		520A	PDM4311A-1	ROLLER ASSY
		521	PQ44230	INERTIA PLATE
		522	LP40226-001A	PC SUPPORT,X2
		523	LP40659-001A	EARTH PLATE(2)
		524	QYTDSF3010M	SCREW,TERMINAL
		525	QYTPSFG3010Z	SCREW,X2 TERMINAL
		526	QYTPSFG3010Z	SCREW,GR
		527	QYTDSF3010Z	SCREW,MAIN
		528	LP30247-001B	FRONT BRACKET
		529	QYTDST2606Z	SCREW,X2
	⚠	530	QMPD190-170-K	POWER CORD
		531	LP30695-001A	KNOB(SHUTTLE)
		532	LP30694-001A	KNOB(JOG)
		533	QYTDSF2608Z	SCREW,X3 JOG
		534	QYTDSF2608Z	SCREW,X2 S JACK
		WR1	QUQ112-0720CG	FFC WIRE,A/C HEAD CN2001
		WR2	QUQ212-0518CG	FFC WIRE,DRUM CN3001
		WR3	QUQ112-1414CG	FFC WIRE,DISPLAY CN3011
		WR4	QUQ112-1407CG	FFC WIRE,S SUB CN911
		WR5	QUQ212-0516CG	FFC WIRE,JACK CN902
		WR6	QUQ212-0416CG	FFC WIRE,S(FSA)CN901
		WR7	QUQ112-0616CG	FFC WIRE,JOG(FSA)CN3012
		WR8	QUQ112-0826CG	FFC WIRE,NAVIGATION CN912
		WR9	QUQ112-1113CG	FFC WIRE,GR CN1901

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

5.3 MECHANISM ASSEMBLY <M4>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122
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143
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130
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140
47
43
44
143
42
123
AA
50
46
120
105
A/C HEAD
BOARD ASSY <12>
121
107
BB
51
49
AA
AA
57
75
10
40
LOADING MOTOR
BOARD ASSY <55>
74
72
106
52
7
13
39
AA
104
AA
58
89
5
21
BB
107
12
55
54
59
132
6
61
AA
76
AA
53
AA
26
AA
83
AA
60
88
73
13
62
11
4
1A
142
AA
82
3
AA
1B
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113
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115
95
110
37
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84
117
35
22
119
103
18
24
AA
36
32
93
25
23
66
99
118
102
96
AA
38
BB
16
27
64
63
70
108
AA
100
71
109
65
67
68
90
92
69
87
AA

Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊

MECHANISM ASSEMBLY <M4>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	LP20884-002D	MAIN DECK ASSY
1A	LP40275-002B	PLATE(SUPPLY)
1B	QYTDST2606Z	SCREW,X4
3	LP30492-002B	GIDE POOL GUARD
4	NAH0001-001	FULL ERASE HEAD
5	LP40098-001B	GUIDE POLE(SUPPLY)
6	QYTDST2608Z	SCREW
7	LP40678-001A	TENSION STUD BASE ASSY
10	QYTDST2606Z	SCREW
11	LP30409-002C	UV CATCHER 2
12	LP30409-002C	UV CATCHER 2
13	QYTPST2606Z	SCREW,X2
15	LP30223-003C	LOADING ARM GEAR SHAFT
16	QYTDST2606Z	SCREW
18	LP30224-001A	LOADING ARM GEAR(SUPPLY)
19	LP40099-001A	TORSION ARM
20	LP40100-001A	PIN
21	LP40101-007A	POLE BASE ASSY(SUPPLY)
22	QYSPSTG2606Z	SCREW
23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
24	LP40099-001A	TORSION ARM
25	LP40100-001A	PIN
26	LP40104-008A	POLE BASE ASSY(TAKE UP)
27	QYSPSTG2606Z	SCREW
31	LP20233-004B	ROTARY ENCODER GUIDE
32	QYTPST2606Z	SCREW
34	LP30226-004C	CONTROL PLATE GUIDE
35	QYTPST2605Z	SCREW
36	LP30249-003B	TAKE UP LEVER
37	LP30003-006A	TENSION SPRING
38	LP40119-002A	TAKE UP HEAD
39	LP20234-004B	LID GUIDE
40	QYTDST2606Z	SCREW,X2
42	LP40105-001B	PINCH ROLLER ARM ASSY
43	LP40478-001A	PINCH ROLLER SHEET2
44	LP40148-002A	TORSION SPRING
46	LP40149-001C	PRESS LEVER ASSY
47	LP30016-002A	SLIT WASHER
49	LP40106-002E	GUIDE ARM ASSY
50	LP30017-008A	SPACER
51	LP40134-001C	TENSION SPRING
52	QAH0010-004	AC HEAD
53	LP30228-001A	HEAD BASE
54	LP30004-013A	COMPRESSION SPRING,X3
55	LP40236-001A	COMPRESSION SPRING
57	LP40213-002B	SPECIAL SCREW,X3
58	QYTDST2608Z	SCREW,X2
59	QAR0023-001	LOADING MOTOR
60	PQ43546-1-2	MOTOR PULLEY
61	LP30230-001B	MOTOR GUIDE
62	QYTPSP3003Z	SCREW,X2
63	LP30005-003A	BELT,LOADING MOTOR
64	LP20791-002C	CONTROL CAM
65	PQM30017-24	SLIT WASHER
66	LP40120-001A	WORM GEAR
67	LP40107-002A	LINK LEVER ASSY
68	PQM30017-24	SLIT WASHER
69	LP10284-002E	CONTROL PLATE
70	LP40379-001B	CONTROL BRACKET(1)
71	QYTDSF2608M	SCREW
72	LP40108-002A	TENSION ARM ASSY
73	LP30003-010A	TENSION SPRING
74	LP40109-003D	TENSION BRAKE ASSY
75	PQ46302-1-3	ADJUST PIN
76	LP30232-002A	TENSION ARM BEARING
78	LP40532-009A	MAIN BRAKE ASSY (SUPPLY)
80	LP40111-012B	MAIN BRAKE AY (TAKE UP)
81	LP30003-029A	TENSION SPRING
82	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
83	LP40357-001B	TENSION SPRING
84	LP40461-001A	CAPSTAN BRAKE ASSY
85	QAR0132-001	CAPSTAN MOTOR
86	QYTDSF2606M	SCREW,X3
87	LP30005-008A	BELT,CAPSTAN MOTOR
88	LP40114-011A	IDLER ARM ASSY
89	LP30016-001A	SLIT WASHER
90	LP40593-003A	CLUTCH UNIT 3
92	PQM30017-47	SLIT WASHER
93	LP30696-002A	CLUTCH GEAR 4
94	LP30697-002A	COUPLING GEAR
95	LP40554-002A	COMPRESSION SPRING
96	LP40442-001A	DIRECT GEAR
99	LP40483-002A	COMPRESSION SPRING
100	LP30016-001A	SLIT WASHER
102	LP40484-001H	CHANGE LEVER ASSY
103	LP40512-002B	COMPRESSION SPRING
104	LP30236-002B	IDLER LEVER
105	LP40420-001A	REEL DISK ASSY(SUPPLY)
106	LP40421-001A	REEL DISK ASSY(TAKE UP)
107	LP30017-015A	SPACER,X2
108	QSW0554-003	ROTARY ENCODER
109	QYTPST2620Z	SCREW
110	LP30237-002B	CASSETTE GEAR
111	LP30239-002G	LIMIT GEAR(1)
112	LP30240-002G	LIMIT GEAR(2)
113	LP40136-001E	TORSION SPRING
114	LP30242-002A	RELAY GEAR
115	LP30339-002E	OPENER GUIDE
116	LP40545-001A	TORSION SPRING
117	LP40214-001B	C.H.BRACKET
118	PQM30017-47	SLIT WASHER,X2
119	LP30243-001D	DRIVE GEAR
120	LP20240-001D	DRIVE ARM
121	LP40137-001A	TORSION SPRING
122	LP10081-002L	SIDE HOLDER(L)
123	LP10082-002M	SIDE HOLDER(R)
124	LP30255-006A	LOCK LEVER(L)
127	LP30256-001H	LOCK LEVER(R)
128	LP40168-001A	TORSION SPRING(L)
129	LP40218-001B	TORSION SPRING(R)
130	LP30257-001F	CASSETTE HOLDER
132	LP30244-002G	GUIDE RAIL
134	LP30245-002E	REC SAFETY LEVER
135	LP30003-004A	TENSION SPRING
137	LP20578-001C	TOP GUIDE
138	LP30500-001C	HOLD PLATE
139	LP40450-003A	PAD,X2
140	LP30003-025B	TENSION SPRING
141	LP30003-024A	TENSION SPRING
142	LP40481-003A	ROLLER CAM ASSY
143	LP30019-014A	PAD,X2
151	LP20324-003A	DOOR OPENER
152	LP30493-001A	START SENSOR CAP

5.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <03>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
PW1	LPA10106-51B1	MAIN BOARD ASSY
IC1	JCP8022-NSD	IC
IC2501	LC85405JE	IC
IC3001	HD6432194AA06F	IC(MCU)
IC3002	S-80727AN-DQ-X	IC
	or S-80827ANUP-W	IC
IC3003	AT24C08-10PC	IC
	or BR24C08	IC
	or M24C08-BN6	IC
	or S-24C08ADP	IC
	or 24LC08B/P	IC
IC3004	BA6956AN	IC
IC3501	BA6956AN	IC
IC3601	BU2090FS	IC
IC3651	BU2090FS	IC
IC5101	STR-G6532	IC
IC5301	LA5644	IC
Q5	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q7	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q8	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q9	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q12	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q17	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q21	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q24	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q38	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q401	2SA1576A/QR/-X	TRANSISTOR
Q402	2SA1576A/QR/-X	TRANSISTOR
Q403	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q404	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q405	2SA1576A/QR/-X	TRANSISTOR
Q2001	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2002	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2003	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2004	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2052	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
Q2053	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2054	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2061	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2062	2SA1576A/QR/-X	TRANSISTOR
	or 2SB1218A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q2102	DTC114EU	TRANSISTOR
	or PDTC114EU	TRANSISTOR
	or RN1302	TRANSISTOR
	or UN5211	TRANSISTOR
Q2103	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2104	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2105	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q2108	2SC4081/QRS/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q2251	DTA144WU	TRANSISTOR
	or PDTA144WU	TRANSISTOR
	or RN2309	TRANSISTOR
	or UN511E	TRANSISTOR
Q2501	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SD1819A/QRS/-X	TRANSISTOR
Q2502	DTC144WU	TRANSISTOR
	or PDTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR
Q3001	2SD1819A/QRS/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q3002	PTZ-NV16	PHOTO TRANSISTOR
	or PTZ-NV16A	PHOTO TRANSISTOR
Q3003	PTZ-NV16	PHOTO TRANSISTOR
	or PTZ-NV16A	PHOTO TRANSISTOR
Q3004	2SD1819A/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
	or 2SC4081/QRS/-X	TRANSISTOR
Q3005	2SD1819A/QRS/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3009	UN521E	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
		Q3501	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q4001	UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
		Q4003	UN5211	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
		Q5301	2SB1256	TRANSISTOR
		Q5302	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or UN5215	TRANSISTOR
			or RN1311	TRANSISTOR
		Q5320	2SB1256	TRANSISTOR
		Q5321	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or RN1311	TRANSISTOR
			or UN5215	TRANSISTOR
		Q5322	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	TRANSISTOR
		Q6501	DTC143TU	TRANSISTOR
		Q6502	DTC143TU	TRANSISTOR
		Q6551	2SC1740S/QRS/-T	TRANSISTOR
			or 2SC3199/YG/-T	TRANSISTOR
		Q7201	2SC1317/RS/-T	TRANSISTOR
		D2001	1SS355	DIODE
		D2121	MTZJ8.2C	ZENER DIODE
		D2201	11ES2	DIODE
			or 1A3G	DIODE
		D2501	1SS133	DIODE
		D3001	LNB2301L01VI	LE DIODE
		D3002	1SS133	DIODE
		D3003	RD39ES/B3/-T2	ZENER DIODE
			or MTZJ39C	ZENER DIODE
		D3004	11E2-T5	DIODE
		D3005	11E2-T5	DIODE
		D3007	1SS355	DIODE
		D4001	1SS355	DIODE
		D4002	1SS355	DIODE
		D5001	S1WB/A/60-4102	BRIDGE DIODE
			or S1WB/A/60-X	BRIDGE DIODE
			or S1WB(A)60F4072X	BRIDGE DIODE
		D5101	AU01	FR DIODE
			or ERA18-04-T2	FR DIODE
			or 10ELS4	FR DIODE
			or 1SR153-400-T2	FR DIODE
		D5102	AU01	FR DIODE
			or ERA18-04-T2	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS4	FR DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D5103	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
			or PG104RS	FR DIODE	
		D5201	AK04	DIODE	
			or 1S4	SB DIODE	
			or 11EQS04	SB DIODE	
		D5202	FML-12S	FR DIODE	
			or FCF06A20	FR DIODE	
			or ER602FCT	FR DIODE	
			or YG901C2	FR DIODE	
			or SF5LC20U	FR DIODE	
		D5206	FMB-24	BARRIER DIODE	
			or FSQ05A04B	SB DIODE	
			or SB640FCT	SB DIODE	
			or SF5SC4	SB DIODE	
			or YG801C04	SB DIODE	
		D5209	ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D5210	AU01Z	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 10ELS2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
		D5211	AU01Z	FR DIODE	
			or PG104RS	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
			or ERA18-02-T2	FR DIODE	
			or 10ELS2	FR DIODE	
		D5214	ERA18-02-T2	FR DIODE	
			or PG104RS	FR DIODE	
			or 10ELS2	FR DIODE	
			or 1SR153-400-T2	FR DIODE	
		D5301	MTZJ15A	ZENER DIODE	
			or RD15ES/B1/-T2	ZENER DIODE	
		D5302	MTZJ6.8A	ZENER DIODE	
			or RD6.8ES/B1/-T2	ZENER DIODE	
		D5303	MTZJ27C	ZENER DIODE	
			or RD27ES/B3/-T2	ZENER DIODE	
		D5304	1SS133	DIODE	
			or 1SS270A	DIODE	
		D5305	11ES2	DIODE	
			or 1A3G	DIODE	
			or ERA15-02-T2	DIODE	
		D5314	11ES2	DIODE	
			or 1A3G	DIODE	
			or ERA15-02-T2	DIODE	
		D5315	11ES2	DIODE	
			or 1A3G	DIODE	
			or ERA15-02-T2	DIODE	
		D6002	HZ30-2L-T2	ZENER DIODE	
			or HZ30-2LTD	Z DIODE (M)	
		D6551	MTZJ10B	ZENER DIODE	
		R1	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
		R2	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R3	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R7	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R9	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R23	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
		R27	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R28	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R29	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R30	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R31	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R32	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R34	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R39	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R44	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R45	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R46	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R51	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R68	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R77	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R88	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R90	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R92	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R93	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R113	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R114	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R401	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R402	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R403	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R404	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R405	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R407	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R408	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R409	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2001	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2003	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R2006	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2007	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2009	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2010	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2011	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2012	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R2016	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2017	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2063	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2102	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R2103	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2104	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2105	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R2106	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R2107	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2109	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2111	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2121	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2202	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2203	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2204	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2205	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2206	QRE141J-101Y	RESISTOR	100Ω,1/4W
		R2210	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2211	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2213	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2215	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2217	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2218	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2219	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2220	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R2223	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2224	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2225	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2228	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2251	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2501	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2502	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2503	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
		R2504	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2505	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2506	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2507	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2508	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R2509	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2510	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R2511	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R2512	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2513	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2514	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R2519	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2520	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2522	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3011	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3012	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3013	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3016	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3017	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3018	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R3019	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3025	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3026	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3027	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3032	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3040	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3041	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3042	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3044	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3046	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3047	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3048	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R3049	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3050	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3054	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3055	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3056	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3059	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3060	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3061	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3072	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3078	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3083	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3085	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3086	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3087	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3088	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3089	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3090	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3094	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3095	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3096	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R3097	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3103	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
		R3206	QRE141J-183Y	RESISTOR	18kΩ,1/4W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3218	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3235	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3236	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3238	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3241	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3244	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3247	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3501	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R3502	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R3503	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R3504	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3505	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3506	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R3671	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3672	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3673	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4001	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4011	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R4015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R4016	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	⚠	R5001	QRZ9046-475Z	RESISTOR	4.7MΩ,1/2W
		R5101	QRG02GJ-104	OMF RESISTOR	100kΩ,2W
		R5102	QRE141J-820Y	RESISTOR	82Ω,1/4W
		R5103	NRSA02J-681X	MG RESISTOR	680Ω,1/10W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R5104	QRG02GJ-683	OMF RESISTOR	68kΩ,2W
	R5105	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
	R5106	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R5301	QRE141J-1R0Y	RESISTOR	1Ω,1/4W
	R5302	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R5303	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
⚠	R5304	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
	R5305	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R5306	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
	R5308	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5309	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
	R5327	NRVA02D-303X	CMF RESISTOR	30kΩ,1/10W
	R5330	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5332	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R5334	QRE141J-103Y	RESISTOR	10kΩ,1/4W
	R5335	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R5336	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R6020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6032	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
	R6050	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6053	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R6061	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R6551	QRE141J-271Y	RESISTOR	270Ω,1/4W
	R6552	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R6553	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
	R6554	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
	R7202	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R7203	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R7204	QRE121J-100Y	RESISTOR	10Ω,1/2W
	C1	NCF21CZ-105X	CAPACITOR	1μF,16V
	C2	NCF21CZ-105X	CAPACITOR	1μF,16V
	C3	NCF21CZ-105X	CAPACITOR	1μF,16V
	C4	NCF21CZ-105X	CAPACITOR	1μF,16V
	C5	QEKC0JM-476	E CAPACITOR	47μF,6.3V
	C6	NCB11EK-104X	CAPACITOR	0.1μF,25V
	C7	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C8	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C9	QETN1HM-225	E CAPACITOR	2.2μF,50V
	C10	NDC21HG-151X	CAPACITOR	150pF,50V
	C11	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C12	NDC21HJ-120X	CAPACITOR	12pF,50V
	C14	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C15	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C16	NCB11EK-104X	CAPACITOR	0.1μF,25V
	C17	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
	C19	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C20	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C21	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C22	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C23	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C24	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C25	NDC21HJ-4R0X	CAPACITOR	4pF,50V
	C26	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C27	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C28	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
	C29	NCB21HK-472X	CAPACITOR	0.0047μF,50V
	C30	NCB21CK-474X	CAPACITOR	0.47μF,16V
	C31	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C32	QCFB1HZ-104	CAPACITOR	0.1μF,50V
	C33	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
	C34	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C35	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C36	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C37	NCB21AK-105X	CAPACITOR	1μF,10V
	C38	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C39	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C40	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C54	NDC21HJ-221X	CAPACITOR	220pF,50V
	C59	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C60	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C61	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C63	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C64	NDC21HJ-120X	CAPACITOR	12pF,50V
	C71	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C72	NDC21HJ-470X	CAPACITOR	47pF,50V
	C73	NDC21HJ-120X	CAPACITOR	12pF,50V
	C74	NDC21HJ-120X	CAPACITOR	12pF,50V
	C80	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C84	NDC21HJ-220X	CAPACITOR	22pF,50V
	C94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C106	NDC21HJ-560X	CAPACITOR	56pF,50V
	C108	NDC21HJ-150X	CAPACITOR	15pF,50V
	C109	NCB21CK-224X	CAPACITOR	0.22μF,16V
	C110	NCB21HK-331X	CAPACITOR	330pF,50V
	C401	NCB21EK-103X	CAPACITOR	0.01μF,25V
	C402	NCB21HK-223X	CAPACITOR	0.022μF,50V
	C403	NDC21HJ-151X	CAPACITOR	150pF,50V
	C404	NDC21HJ-180X	CAPACITOR	18pF,50V
	C405	NDC21HJ-220X	CAPACITOR	22pF,50V
	C406	NDC21HJ-681X	CAPACITOR	680pF,50V
	C407	NDC21HJ-150X	CAPACITOR	15pF,50V
	C2001	QETN1HM-475	E CAPACITOR	4.7μF,50V
	C2002	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2003	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
	C2004	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2005	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2006	NCB21HK-123X	CAPACITOR	0.012μF,50V
	C2007	QEKJ1CM-226	E CAPACITOR	22μF,16V
	C2008	QERF1EM-475	E CAPACITOR	4.7μF,25V
	C2009	NCB21HK-102X	CAPACITOR	0.001μF,50V
	C2010	NCB21HK-222X	CAPACITOR	0.0022μF,50V
	C2011	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2012	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
	C2051	NCB21HK-331X	CAPACITOR	330pF,50V
	C2061	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
	C2062	NCB21HK-332X	CAPACITOR	0.0033μF,50V
	C2063	NCB21HK-103X	CAPACITOR	0.01μF,50V
	C2064	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2101	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2102	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2104	NCB21EK-104X	CAPACITOR	0.1μF,25V
	C2202	NCB21EK-333X	CAPACITOR	0.033μF,25V
	C2203	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2204	QDGB1HK-102Y	CAPACITOR	0.001μF,50V
	C2205	QEKJ1HM-105	E CAPACITOR	1μF,50V
	C2206	QEKJ1CM-106	E CAPACITOR	10μF,16V
	C2207	QEKJ1CM-476	E CAPACITOR	47μF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C2208	QETN1HM-475	E CAPACITOR	4.7µF,50V
		C2209	QERF1HM-104	E CAPACITOR	0.1µF,50V
		C2210	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
		C2211	QERF1HM-105	E CAPACITOR	1µF,50V
		C2212	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2215	QERF1EM-475	E CAPACITOR	4.7µF,25V
		C2216	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2217	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2218	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2219	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2220	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2221	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2222	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2223	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2224	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2225	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2226	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2227	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2229	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2230	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2231	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2251	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2252	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2253	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2254	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2256	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C2501	QERF0JM-107	E CAPACITOR	100µF,6.3V
		C2502	NCB21HK-562X	CAPACITOR	0.0056µF,50V
		C2503	QERF1HM-105	E CAPACITOR	1µF,50V
		C2505	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C2506	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2507	QERF1CM-226	E CAPACITOR	22µF,16V
		C2508	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2509	QERF1CM-106	E CAPACITOR	10µF,16V
		C2510	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2511	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C2512	NDC21HJ-331X	CAPACITOR	330pF,50V
		C2513	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2518	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2519	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2520	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3001	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3002	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3003	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C3004	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3008	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3011	QETL0JM-478	E CAPACITOR	4700µF,6.3V
		C3012	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C3015	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3016	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3027	NBE20JM-106X	T CAPACITOR	10µF,6.3V
		C3030	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C3031	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C3032	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3033	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	QCFB1HZ-104	CAPACITOR	0.1µF,50V
		C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
		C3042	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C3501	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3502	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C3503	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3602	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3652	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4002	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4003	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4004	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C4006	NBE40JM-476X	T CAPACITOR	47µF,6.3V
		C4007	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4008	NCB21AK-105X	CAPACITOR	1µF,10V
		C4009	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4012	NCB21EK-224X	CAPACITOR	0.22µF,25V
		C4013	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4017	NCB21HK-222X	CAPACITOR	0.0022µF,50V
	⚠	C5001	QFZ9073-683	F CAPACITOR	0.068µF,250V
	⚠	C5004	QCZ9094-472	CAPACITOR	0.0047µF,250V
		C5006	QETM2DM-157	E CAPACITOR	150µF,200V
		C5101	QCZ0212-472	CAPACITOR	0.0047µF,1kV
		C5102	QEMU1VM-276	E CAPACITOR	27µF,35V
		C5103	QCZ0136-101Z	CAPACITOR	100pF,1kV
		C5104	QFLC1HJ-471Z	F CAPACITOR	470pF,50V
		C5107	QCZ0136-101Z	CAPACITOR	100pF,1kV
		C5201	QEMU0JM-227	E CAPACITOR	220µF,6.3V
		C5202	QEMT1CM-827	E CAPACITOR	820µF,16V
		C5203	QEMT1AM-158	E CAPACITOR	1500µF,10V
		C5204	QETN2AM-475	E CAPACITOR	4.7µF,100V
		C5205	QETN1HM-106	E CAPACITOR	10µF,50V
		C5206	QEMU1EM-187	E CAPACITOR	180µF,25V
		C5207	QETN1CM-227	E CAPACITOR	220µF,16V
		C5208	QETN1AM-227	E CAPACITOR	220µF,10V
		C5212	QEMU1VM-127	E CAPACITOR	120µF,35V
		C5213	QEMU0JM-227	E CAPACITOR	220µF,6.3V
		C5301	QETM0JM-108	E CAPACITOR	1000µF,6.3V
		C5302	QETN1HM-106	E CAPACITOR	10µF,50V
		C5303	QETN1CM-107	E CAPACITOR	100µF,16V
		C5304	QFVF1HJ-274Z	F CAPACITOR	0.27µF,50V
		C5305	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6054	NDC21HJ-220X	CAPACITOR	22pF,50V
		C6055	NDC21HJ-220X	CAPACITOR	22pF,50V
		C7202	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		L1	QQL29BJ-100Z	COIL	10µH
		L2	QQL231J-680Y	COIL	68µH
		L3	QQL29BJ-100Z	COIL	10µH
		L4	QQL29BJ-100Z	COIL	10µH
		L5	QQL29BJ-100Z	COIL	10µH
		L11	QQL01BJ-120Z	COIL	12µH
		L13	QQL231J-101Y	COIL	100µH
		L15	QQL29BJ-100Z	COIL	10µH
		L19	QQL231J-100Y	COIL	10µH
		L24	QQL231J-180Y	COIL	18µH
		L27	QQL231J-151Y	COIL	150µH
		L28	QQL231J-150Y	COIL	15µH
		L401	QQL071J-150Y	COIL	15µH
		L2251	QQL29BJ-100Z	COIL	10µH

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L2501	QQL29BJ-2R2Z	COIL	2.2μH
	L5201	PELN1184	COIL	33μH
	L5202	PU60944-330K	COIL	33μH
	L6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	L7201	QQL01BJ-101Z	COIL	100μH
	LPF2501	PELN1137	LOW PASS FILTER	
	CF2501	QAX0399-001Z	RESONATOR	
	LC2501	QQL29BJ-100Z	COIL	10μH
	X2	QAX0575-001	CRYSTAL RESONATOR	
	X3001	QAX0444-001	CRYSTAL RESONATOR	
	X3002	QAX0527-001	CRYSTAL RESONATOR	
	S3002	QSW0695-001	PUSH SWITCH,S CASS SW	
	K2251	NQR0007-001X	FERRITE BEAD	
	K2252	NQR0007-001X	FERRITE BEAD	
	K2253	NQR0007-001X	FERRITE BEAD	
	K5101	QQR0678-001Z	FERRITE BEAD	
	K5102	QQR0678-001Z	FERRITE BEAD	
	PC3001	GP3S123	IC(PHOTO SENSOR)	
	PC3002	GP3S123	IC(PHOTO SENSOR)	
⚠	PC5101	PC817	IC(PHOTO COUPLER)	
	T2052	PELN0861	OSC TRANSFORMER	
⚠	T5001	QQS0057-001	SW TRANSFORMER	
	TU6001	QAU0163-001	TUNER	
	ET1	PQ21623-1-5	EARTH PLATE(RF)	
	ET2	LP40658-001A	EARTH PLATE(1)	
	HS1	LP40621-001A	HEAT SINK,IC5101	
	SD1	LP30720-001A	SHIELD CASE(PRE/REC)	
	OT1	QYTDSF3010Z	SCREW,X2 TERMINAL	
	OT2	PU59915-105	#500SPACER0.01,WR9	
	OT3	QYTDST3008Z	SCREW,IC5101	
	WR9	QUB371-09A2A2	SIN TWIST WIRE	
	FC5001	QNG0006-001Z	FUSE CLIP,F5001	
	FC5002	QNG0006-001Z	FUSE CLIP,F5001	
⚠	LF5002	QQR0532-001	LINE FILTER	
⚠	SG5001	QAF0046-242Z	SURGE ABSORBER	
⚠	VA5001	QAF0039-431Z	VARISTOR	
⚠	VA5002	QAF0039-431Z	VARISTOR	
	CN1	QGF1028C1-13	FPC CONNECTOR,(4-16)U.DRUM	
	CN901	QGF1207C1-04	FPC CONNECTOR,(1-4)FRONT S IN	
	CN902	QGF1207C1-05	FPC CONNECTOR,(1-5)FRONT IN	
	CN903	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
	CN904	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
	CN905	QGB2024K1-05S	CONNECTOR,(1-5)TERMINAL	
	CN907	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
	CN1901	QGF1207C1-11	FPC CONNECTOR,(1-11)GR	
	CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD	
	CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
	CN2051	QGB2024K1-04S	CONNECTOR,(1-4)AUDIO ERASE	
	CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
	CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR	
	CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
	CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTARY ENCODER	
	CN3011	QGF1207C1-14	FPC CONNECTOR,(1-14)FRONT	
	CN3012	QGF1207C1-06	FPC CONNECTOR,(1-6)JOG	
	CN3501	QGB2011L2-06	CONNECTOR,(1-6)DD MDA	
⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
⚠	CP4001	ICP-N25	CIRCUIT PROTECTOR	
⚠	CP5301	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP5302	ICP-N25	CIRCUIT PROTECTOR	
⚠	F5001	QMF51N2-1R25J1	FUSE	T1.25A,AC250V

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3D DIGITAL/4M BOARD ASSEMBLY <05>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW1	LPA10104-01B	3D DIGITAL/4M BOARD ASSY	
	IC1401	JCP8026	IC	
	IC1402	MN47V77S-XE	IC	
	Q1401	2SC1317/RS/-T	TRANSISTOR	
	Q1402	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1403	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1404	DTC144WU	TRANSISTOR	
		or PDTC144WU	TRANSISTOR	
		or UN521E	TRANSISTOR	
		or RN1309	TRANSISTOR	
	Q1406	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1407	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1408	2SC4081/S/-X	TRANSISTOR	
	Q1410	2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q1412	2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q1413	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1414	DTC144WU	TRANSISTOR	
		or PDTC144WU	TRANSISTOR	
		or RN1309	TRANSISTOR	
		or UN521E	TRANSISTOR	
	Q1417	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1418	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q1419	DTC124TU	TRANSISTOR	
	D1401	RD4.3ES/B2/-T2	ZENER DIODE	
		or MTZJ4.3B	ZENER DIODE	
	D1402	1SS133	DIODE	
		or 1N4148M	DIODE	
	R1401	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
	R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1404	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1407	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	R1410	NRSA02J-241X	MG RESISTOR	240Ω,1/10W
	R1411	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1414	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1415	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R1416	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
	R1417	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1421	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R1426	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1427	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R1428	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
	R1429	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1430	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1431	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1432	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1433	NRSA02J-510X	MG RESISTOR	51Ω,1/10W
		R1434	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1435	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1436	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R1437	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R1438	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1439	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1440	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1441	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1442	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1446	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1447	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1448	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1449	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1450	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1453	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1455	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1458	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1459	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1460	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1462	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		VR1401	QVZ3521-103Z	V RESISTOR,D/A LEVEL ADJ	
		C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
		C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1403	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1404	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1405	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1406	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1407	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1408	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1410	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1411	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1412	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1413	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1415	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1416	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1417	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1421	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1422	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1423	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1424	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1425	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1426	NDC21HJ-390X	CAPACITOR	39pF,50V
		C1428	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1429	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1432	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1435	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1439	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1442	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1444	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1446	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C1447	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1448	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1449	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1451	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1452	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1453	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1454	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1455	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1456	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1457	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1458	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1463	QEKJ0JM-336	E CAPACITOR	33μF,6.3V
		C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1466	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1467	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1471	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1472	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1473	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		L1401	QQL29BJ-100Z	COIL	10μH
		L1402	QQL071J-6R8Y	COIL	6.8μH
		L1403	QQL071J-6R8Y	COIL	6.8μH
		L1404	QQL071J-6R8Y	COIL	6.8μH
		L1405	QQL29BJ-100Z	COIL	10μH
		L1406	QQL071J-330Y	COIL	33μH
		L1407	QQL29BJ-100Z	COIL	10μH
		L1408	QQL29BJ-4R7Z	COIL	4.7μH
		LC1401	QQR0657-013Z	NOISE FILTER	
		LC1402	QQR0657-010Z	NOISE FILTER	
		SD1	LP30706-001B	SHIELD FRAME(S VHS)	
		SD2	LP30684-001A	SHIELD CASE(S VHS)	
		CN1401	QGG2502K1-17	HEADER PIN	

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TERMINAL BOARD ASSEMBLY <06>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10101-01B	TERMINAL BOARD ASSY	
		IC201	LC74785N-9762	IC (OSD)	
		Q203	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q207	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q901	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q903	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q904	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		D201	1SS133	DIODE	
		D204	1SS133	DIODE	
		D205	1SS133	DIODE	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D206	1SS133	DIODE	
		D207	1SS133	DIODE	
		R201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R205	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R207	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R208	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R212	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R213	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R217	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R218	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R219	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R223	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R901	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R904	QRE123J-331X	RESISTOR	330Ω,1/2W
		R905	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R911	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R914	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R915	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R916	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R917	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R919	QRE123J-331X	RESISTOR	330Ω,1/2W
		R920	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R921	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R922	QRE123J-331X	RESISTOR	330Ω,1/2W
		R934	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R935	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R941	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R942	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R943	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R947	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R948	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		C201	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
		C202	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C204	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C206	NDC21HJ-330X	CAPACITOR	33pF,50V
		C207	NDC21HJ-330X	CAPACITOR	33pF,50V
		C214	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C218	NCB21AK-105X	CAPACITOR	1µF,10V
		C220	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C222	NCB21AK-105X	CAPACITOR	1µF,10V
		C223	NDC21HJ-680X	CAPACITOR	68pF,50V
		C902	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		C903	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C904	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C911	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C912	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C914	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		C918	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L201	QQL29BJ-100Z	COIL	10µH
		L203	QQL231J-220Y	COIL	22µH
		L901	QQL29BJ-100Z	COIL	10µH
		SW901	QSW0887-001	SLIDE SWITCH	
	⚠	TB1	LP30716-001A	TERMINAL BOARD ASSY	
		OT1	QYTDSF3008Z	SCREW,X5	
		J901	QND0009-001	S JACK,S1 IN	
		J903	QND0009-001	S JACK,S1 OUT	
		J905	QNN0364-002	PIN JACK,VLR IN	
		J911	QNN0363-002	PIN JACK,VLR OUT	
		J923	PEMC1190	MINI JACK,JLIP	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		J925	PU60659	MINI JACK,SAT.CTL	
		J926	PU60659	MINI JACK,R.PAUSE	
		CN911	QGF1208F1-14	FPC CONNECTOR,(1-14)S_SUB	
		CN912	QGF1208F1-08	FPC CONNECTOR,(1-8)NAVIGATION	
		CN913	QGB2024J1-12S	CONNECTOR,(1-12)MAIN	
		CN914	QGB2024J1-12S	CONNECTOR,(1-12)MAIN	
		CN915	QGB2024J1-05S	CONNECTOR,(1-5)MAIN	
		CN917	QGB2024J1-10S	CONNECTOR,(1-10)MAIN	

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AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	LPA10010-01A1	A/C HEAD BOARD ASSY	
CN1	QGF1208F1-07	FPC CONNECTOR	

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DEMOD BOARD ASSEMBLY <14>

PW1	PB11076A	DEMOD BOARD ASSY	
IC1501	UPC1852AGT	IC	
	or UPC1854AGT	IC	
R1501	QRE141J-102Y	RESISTOR	1kΩ,1/4W
R1502	QRE141J-334Y	RESISTOR	330kΩ,1/4W
R1503	QRE141J-124Y	RESISTOR	120kΩ,1/4W
R1504	QRE141J-302Y	RESISTOR	3kΩ,1/4W
R1505	QRE141J-512Y	RESISTOR	5.1kΩ,1/4W
R1506	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1507	QRE141J-333Y	RESISTOR	33kΩ,1/4W
R1508	QRE141J-392Y	RESISTOR	3.9kΩ,1/4W
R1509	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R1510	QRE141J-392Y	RESISTOR	3.9kΩ,1/4W
R1511	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R1517	QRE141J-123Y	RESISTOR	12kΩ,1/4W
C1501	QETC1CM-226	E CAPACITOR	22µF,16V
C1502	QETC1HM-104	E CAPACITOR	0.1µF,50V
C1503	QETC1HM-105	E CAPACITOR	1µF,50V
C1504	QETC1HM-475	E CAPACITOR	4.7µF,50V
C1505	QETC1HM-225	E CAPACITOR	2.2µF,50V
C1506	QETC1HM-104	E CAPACITOR	0.1µF,50V
C1507	QFV11HJ-473	F CAPACITOR	0.047µF,50V
C1508	QETC1HM-474	E CAPACITOR	0.47µF,50V
C1509	QETC1HM-104	E CAPACITOR	0.1µF,50V
C1510	QETC1HM-105	E CAPACITOR	1µF,50V
C1511	QETC1HM-105	E CAPACITOR	1µF,50V
C1512	QETC1HM-105	E CAPACITOR	1µF,50V
C1513	QETN1HM-335	T CAPACITOR	3.3µF,50V
C1514	QETN1HM-106	T CAPACITOR	10µF,50V
C1515	QETC1HM-105	E CAPACITOR	1µF,50V
C1516	QETC1HM-106	E CAPACITOR	10µF,50V
C1517	QETC1HM-106	E CAPACITOR	10µF,50V
C1518	QETC1HM-105	E CAPACITOR	1µF,50V
C1521	QETC1HM-106	E CAPACITOR	10µF,50V
BK1	LP40077-001A	BRACKET(BOARD)	
CN1501	QGG2502K1-09	HEADER PIN	

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S-SUB BOARD ASSEMBLY <15>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10103-03A	S-SUB BOARD ASSY	
		IC501	JCP8018	IC	
			or JCP8028	IC	
			or JCP8028-01	IC	
			or JCP8038		
		IC502	VC2076DP	IC	
		R503	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R504	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R505	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R506	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R507	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R508	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R509	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R510	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R511	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R512	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R513	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R514	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R515	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R516	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R517	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R525	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R527	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R531	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R532	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R535	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R536	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		C501	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C502	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C503	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C504	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C505	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C506	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C507	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C508	QEPF1HM-474	NP E CAPACITOR	0.47μF,50V
		C509	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C510	QEKJ0JM-227	E CAPACITOR	220μF,6.3V
		C511	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C512	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C513	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C514	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C515	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C516	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C517	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C518	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C519	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C520	QERF1EM-475	E CAPACITOR	4.7μF,25V
		C521	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C522	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C523	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C524	NDC21HG-301X	CAPACITOR	300pF,50V
		C525	NDC21HG-301X	CAPACITOR	300pF,50V
		C526	NDC21HJ-101X	CAPACITOR	100pF,50V
		C527	NDC21HJ-181X	CAPACITOR	180pF,50V
		C528	NDC21HG-271X	CAPACITOR	270pF,50V
		C529	NDC21HG-820X	CAPACITOR	82pF,50V
		C530	NDC21HG-221X	CAPACITOR	220pF,50V
		C531	NDC21HG-301X	CAPACITOR	300pF,50V
		C532	NDC21HG-301X	CAPACITOR	300pF,50V
		C533	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C534	QETJ0JM-477	E CAPACITOR	470μF,6.3V
		C535	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C551	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C553	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C557	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C559	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C560	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C561	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C563	NCB21HK-103X	CAPACITOR	0.01μF,50V
		L501	QQL29BJ-100Z	COIL	10μH
		L503	QQL29BJ-100Z	COIL	10μH
		L504	QQL29BJ-100Z	COIL	10μH
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN511	QGG2503K2-30	HEADER PIN,(1-30)MAIN	
		CN512	QGF1209F2-14	FFC/FPC CONNECTOR,(1-14)TERMINAL	

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NAVIGATION BOARD ASSEMBLY <19>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10108-02C	NAVIGATION BOARD ASSY	
		IC3301	MN101C12GCC	IC(MCU)	
			or MN101CP12GAFCC	IC(MCU)	
		IC3401	74HC4053D	IC	
		IC3402	74HC4053D	IC	
		IC3403	AT45D011-SC-X	IC	
		D3401	RB751V-40-X	SB DIODE	
		D3407	1SS355	DIODE	
		R3302	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3313	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3321	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3322	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3323	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3326	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3328	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3329	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3330	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3331	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3332	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R3333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3339	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3340	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3342	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3343	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3345	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3346	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3347	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3348	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3349	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3350	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3351	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3352	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3371	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3372	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3373	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3386	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3401	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3402	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3403	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3404	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3412	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3414	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3415	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3422	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3432	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3452	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3462	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R3463	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3464	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R3465	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R3466	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R3468	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
C3312	NDC21HJ-200X	CAPACITOR	20pF,50V
C3313	NDC21HJ-200X	CAPACITOR	20pF,50V
C3314	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3321	NDC21HJ-220X	CAPACITOR	22pF,50V
C3322	NDC21HJ-220X	CAPACITOR	22pF,50V
C3323	NDC21HJ-220X	CAPACITOR	22pF,50V
C3333	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3345	NDC21HJ-220X	CAPACITOR	22pF,50V
C3346	NDC21HJ-220X	CAPACITOR	22pF,50V
C3347	NDC21HJ-220X	CAPACITOR	22pF,50V
C3401	QEKJ0JM-226	E CAPACITOR	22μF,6.3V
C3402	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3403	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3404	NCB21EK-104X	CAPACITOR	0.1μF,25V
C3405	NCB21EK-104X	CAPACITOR	0.1μF,25V
X3301	QAX0584-001	CRYSTAL RESONATOR	
BK1	LP40425-001A	BRACKET(BOARD)	
CN3401	QGG2502K1-13	HEADER PIN	
CN3402	QGF1207F1-08	FPC CONNECTOR,(1-8)TERMINAL	

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DISPLAY BOARD ASSEMBLY <28>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	LPA10056-08A1	DISPLAY BOARD ASSY	
IC7001	M35500BGP	IC	
	or M35500BFP	IC	
	or M35500AGP	IC	
IC7002	PNA4652M00XB	IR DETECT UNIT	
	or GP1U281X	IR DETECT UNIT	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
D7009	SLR-342MC3F	LE DIODE	
D7010	SLR-342VC3F	LE DIODE	
D7011	SLR-342MC3F	LE DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
R7034	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
R7040	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7041	QRE141J-331Y	RESISTOR	330Ω,1/4W
R7042	QRE141J-331Y	RESISTOR	330Ω,1/4W
C7001	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7002	QETN1HM-106	E CAPACITOR	10μF,50V
C7007	QETN1HM-476	E CAPACITOR	47μF,50V
C7009	QCSB1HJ-150	CAPACITOR	15pF,50V
C7010	QCFB1HZ-104	CAPACITOR	0.1μF,50V
C7011	QETN1AM-227	E CAPACITOR	220μF,10V
C7019	QDVB1EZ-223Y	CAPACITOR	0.022μF,25V
S7001	QSW0456-002Z	TACT SWITCH,POWER	
S7002	QSW0456-002Z	TACT SWITCH,CH+	
S7003	QSW0456-002Z	TACT SWITCH,CH-	
S7004	QSW0456-002Z	TACT SWITCH,REC	
S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
S7006	QSW0456-002Z	TACT SWITCH,PLAY	
S7007	QSW0456-002Z	TACT SWITCH,STOP/EJECT	
S7010	QSW0456-002Z	TACT SWITCH,D.TBC/NR	
S7011	QSW0456-002Z	TACT SWITCH,V.NAVI	
S7012	QSW0456-002Z	TACT SWITCH,SVHS ET	
S7013	QSW0456-002Z	TACT SWITCH,REC LINK	
S7014	QSW0456-002Z	TACT SWITCH,OK	
S7015	QSW0456-002Z	TACT SWITCH,MENU	
S7016	QSW0456-002Z	TACT SWITCH,INSERT	
S7017	QSW0456-002Z	TACT SWITCH,A.DUB	
DI7001	QLF0032-002	FL TUBE	
HD1	LP30428-001A	FDP HOLDER(L),DI7001	
HD2	LP30429-001A	FDP HOLDER(R),DI7001	
HD3	PQM30038-2-2	LED HOLDER,D7009	
HD4	PQM30038-1-2	LED HOLDER,D7010	
HD5	PQM30038-2-2	LED HOLDER,D7011	
CN7001	QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	

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REC SAFETY BOARD ASSEMBLY <32>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW2	LPA10056-01A2	REC SAFETY BOARD ASSY	
		S7041	QSW0602-004	PUSH SWITCH	
		FW7001	QUM032-07A4A4	PARA RIBON WIRE	

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S JACK BOARD ASSEMBLY <36>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW4	LPA10056-08A4	JACK BOARD ASSY	
		D7199	MTZJ6.2A	ZENER DIODE	
			or RD6.2ES/B1/-T2	ZENER DIODE	
		R7191	QRE141J-750Y	RESISTOR	75Ω,1/4W
		R7193	QRE141J-750Y	RESISTOR	75Ω,1/4W
		R7194	QRE141J-750Y	RESISTOR	75Ω,1/4W
		J7191	PEMC1126	PIN JACK,VIDEO IN	
		J7192	PEMC0922	PIN JACK(SW),A(L)IN	
		J7193	PEMC0922	PIN JACK(SW),A(R)IN	
		J7194	QND0085-001	S JACK,S VIDEO	
		CN7191	QGF1207F1-05	FPC CONNECTOR,(3-7)	
		CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)MAIN	

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JOG BOARD ASSEMBLY <37>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW3	LPA10056-01A3	JOG BOARD ASSY	
		UN7091	PEME0976	JOG ASSY	
		CN7005	QGF1207F1-06	FPC CONNECTOR,(1-6)MAIN	

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AUDIO ERASE BOARD ASSEMBLY <46>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW2	LPA10106-51A2	AUDIO ERASE BOARD ASSY	
		Q2051	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		R2054	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		C2052	QFLC1HJ-333Z	F CAPACITOR	0.033μF,50V
		C2053	NCB21HK-332X	CAPACITOR	0.0033μF,50V
		C2054	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2055	QEKJ1CM-106	E CAPACITOR	10μF,16V
		T2051	PELN0860	OSC TRANSFORMER	
		CN2052	QGB2024J1-04S	CONNECTOR,(1-4)MAIN	

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LOADING MOTOR BOARD ASSEMBLY <55>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY
		CN1	QGB2533K1-02	CONNECTOR

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GR BOARD ASSEMBLY <96>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10041-02A	GR BOARD ASSY
		IC1901	M52661FP	IC
		IC1902	MB40C568	SOP IC
		IC1903	OR43101MQC	IC
		IC1904	S-80728AN-DR-X	IC
			or S-80828ANUP-W	IC
		IC1905	S-80742AN-D6-X	IC
			or S-80842ANUP-W	IC
		IC1906	L5431	IC
		IC1907	MM1115XF	SOP IC
		Q1901	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1922	2SD2528/P/	TRANSISTOR
		Q1941	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1942	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1943	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1944	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1945	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1946	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1947	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1948	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1949	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1950	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1951	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	Q1952	2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SB1218A/QR/-X	TRANSISTOR	
	Q1953	2SC4081/QRS/-X	TRANSISTOR	
		or 2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q1954	2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SD1819A/QRS/-X	TRANSISTOR	
	Q1955	2SA1576A/QR/-X	TRANSISTOR	
		or 2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	D1901	DA204U	DIODE	
	D1923	11ES2	DIODE	
		or 1A3G	DIODE	
	D1924	11ES2	DIODE	
		or 1A3G	DIODE	
	D1941	DAP202U	DIODE	
	D1943	DA204U	DIODE	
	D1944	DAP202U	DIODE	
	R1901	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R1902	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R1905	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1906	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1907	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
	R1908	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1909	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1910	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1911	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R1912	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R1931	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R1932	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R1934	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1937	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1938	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1939	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1940	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1941	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R1942	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R1943	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
	R1944	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1945	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1946	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1947	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1948	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R1949	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1950	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1951	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1952	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
	R1953	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1954	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
	R1955	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R1956	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1957	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1958	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
	R1959	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R1960	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1961	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1962	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
	R1963	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
	R1965	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W

#	⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
	R1966	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
	R1967	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1968	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1969	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
	R1970	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
	R1971	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1972	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
	R1973	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
	R1974	NRSA02F-4121X	MG RESISTOR	4.12kΩ,1/10W
	R1975	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
	R1976	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1977	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
	R1978	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1979	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
	R1980	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
	R1981	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
	R1982	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
	R1986	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R1987	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1988	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1989	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
	R1990	NRVA02D-683X	CMF RESISTOR	68kΩ,1/10W
	R1991	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R1992	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
	R1993	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
	R1994	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R1995	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
	R1996	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
	R1997	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
	R1998	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
	RA1901	NRZ0040-101X	NET RESISTOR	100Ω
	RA1902	NRZ0040-101X	NET RESISTOR	100Ω
	RA1931	NRZ0040-101X	NET RESISTOR	100Ω
	RA1932	NRZ0040-101X	NET RESISTOR	100Ω
	C1901	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1902	QEKJ1CM-106	E CAPACITOR	10µF,16V
	C1906	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1907	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1913	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C1919	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1920	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1921	QEKJ1CM-106	E CAPACITOR	10µF,16V
	C1922	NCF21CZ-105X	CAPACITOR	1µF,16V
	C1923	QEKJ1CM-476	E CAPACITOR	47µF,16V
	C1926	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1927	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
	C1928	QEKJ1CM-476	E CAPACITOR	47µF,16V
	C1930	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1932	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1933	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1934	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1935	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1938	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1941	QEKJ1AM-107	E CAPACITOR	100µF,10V
	C1942	NDC21HJ-220X	CAPACITOR	22pF,50V
	C1943	NDC21HJ-5R0X	CAPACITOR	5pF,50V
	C1944	NDC21HJ-390X	CAPACITOR	39pF,50V
	C1945	QEKJ1CM-106	E CAPACITOR	10µF,16V
	C1946	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C1947	NDC21HJ-470X	CAPACITOR	47pF,50V
	C1948	NDC21HJ-680X	CAPACITOR	68pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1949	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1950	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1951	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1952	NCB21HK-681X	CAPACITOR	680pF,50V
		C1953	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1954	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1955	NDC21HJ-5R0X	CAPACITOR	5pF,50V
		C1956	NDC21HJ-390X	CAPACITOR	39pF,50V
		C1957	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C1958	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C1959	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C1961	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1962	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C1963	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1964	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1965	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1966	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1967	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C1968	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C1969	NCB21HK-152X	CAPACITOR	0.0015μF,50V
		C1970	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C1971	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1972	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C1973	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1974	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1975	NDC21HJ-150X	CAPACITOR	15pF,50V
		C1977	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1978	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1979	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1980	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1981	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1982	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1983	QEKJ1AM-107	E CAPACITOR	100μF,10V
		C1984	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1985	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1986	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1987	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1992	NCB21CK-474X	CAPACITOR	0.47μF,16V
		C1993	QEKJ1CM-476	E CAPACITOR	47μF,16V
		C1994	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1995	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1996	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1997	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1998	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1999	NDC21HJ-470X	CAPACITOR	47pF,50V
		L1941	QQL29BJ-220Z	COIL	22μH
		L1942	QQL29BJ-150Z	COIL	15μH
		L1943	QQL29BJ-330Z	COIL	33μH
		L1944	QQL29BJ-100Z	COIL	10μH
		L1945	QQL29BJ-100Z	COIL	10μH
		CF1941	QAX0492-001	RESONATOR	
		LC1901	QQR0657-013Z	NOISE FILTER	
		X1941	QAX0012-001	CRYSTAL RESONATOR	
		K1901	QQR0678-001Z	FERRITE BEAD	
		K1931	QQR0678-001Z	FERRITE BEAD	
		K1932	QQR0678-001Z	FERRITE BEAD	
		SD1	LP30489-001A	SHIELD CASE(GR)	
		SD2	LP30490-001A	SHIELD PLATE(GR)	
		CN1902	QGF1207C1-11	FPC CONNECTOR,(1-11)MAIN	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION